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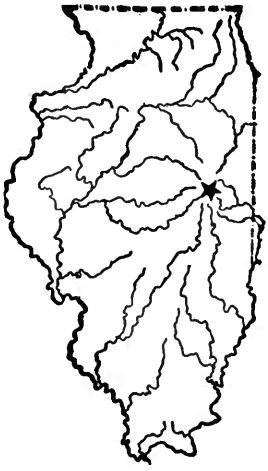
ILLINOIS CROP YIELDS FROM SOIL EXPERIMENT FIELDS

By CYRIL G. HOPKINS, F. W. GARRETT, J. E. WHITCHURCH, AND H. F. T. FAHRNKOPF



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By CYRIL G. HOPKINS, F. W. GARRETT, J. E. WHITCHURCH, and H. F. T. FAHRNKOPF

INTRODUCTION

Herein are reported the detailed results from thirty-eight Illinois soil experiment fields[1] up to and including those of 1917. A number of these fields were established in the summer and fall of 1901 and the others have been put into operation at various times since then, some being only a few years old. The Morrow plots at the University have been in operation since 1879, and so far as is known are the oldest experimental plots in America.

Most of these experiment fields contain about 20 acres each, a few contain from 25 to 40 acres, and a few have less than 10 acres. Each field is divided into series which correspond to the different fields upon a farm, and upon which is grown a definite rotation of crops. Each series is further divided into smaller areas, usually into ten fifth-acre plots. The individual plots are treated in such a manner that positive information can be secured in regard to the needs of the soil. Untreated plots are retained as checks in order to determine the effect of every kind of soil treatment applied.

Systems of Farming

On most of the experiment fields are conducted both a live-stock and a grain system of farming.

Under the live-stock system of management, the nitrogen and organic matter of the soil are maintained by applying as much manure as can be made from the produce grown upon the land. On this basis no more manure is applied to a plot than can be made from the produce of that plot. For every ton of produce grown, an equivalent amount of average farm manure is returned during the rotation. Under a good system of live-stock farming it has been found that about one ton of average manure can be made from one ton of feed and bedding. A large amount of the grain produced is fed, in the live-stock system, the legumes harvested as hay, and the hay, straws, and stovers used for feeding and bedding purposes.

In the grain system of farming, no manure is applied to the land. The nitrogen and organic matter of the soil are maintained by plowing under all crop residues (straws, corn stalks, all of the legume

[1]For more detailed information concerning these fields, see Bulletin 193.

crops from which the seed has been removed, and also cover crops of legumes). The regular legume crops are so managed that a seed crop is secured if possible, and all resulting residues are returned to the soil. Sometimes the first crop of red clover or sweet clover is clipped and the clippings left upon the land; the second crop is then harvested for seed and the chaff returned to the land. The first growth of mammoth clover is rolled down so that most of it is left on the land when the seed crop is harvested. Sometimes seed is saved from both the first and the second cuttings of red clover, or the first crop may be allowed to stand and be harvested with the second growth. Alsike is also grown and is harvested for hay in the live-stock system and for seed in the grain system. When alfalfa is included in the rotation, it is harvested for hay in both systems. The first cutting of red clover or of sweet clover may sometimes be made into hay in the grain system, as well as in the live-stock system, especially after the soil becomes rich in organic matter. The residues from the grain and legume crops may be plowed under directly, or they may be used as a top-dressing for the protection of winter crops and eventually plowed under.

ROTATIONS

On the Illinois soil experiment fields crops are grown in definite rotations. On some fields two or more rotations are being tried. There are usually series enough so that all the rotation crops are represented every year. The crops grown are those common to the locality and include wheat, corn, barley, rye, red clover, mammoth clover, alsike, sweet clover, alfalfa, cowpeas, soybeans, vetch, timothy, potatoes, and cotton.

Standard Rotation.—On a large number of the fields a standard four-year rotation is practiced. This is the famous Norfolk rotation of Europe in which a cultivated crop is followed by a spring grain, the spring grain by a legume, and the legume by a winter grain. Such a rotation permits the seeding of a cover crop of legumes in the winter grain, which may be plowed down the next spring before the cultivated crop is planted. The rotation as commonly practiced on the Illinois fields is corn, oats, clover, and wheat, a cover crop (usually sweet clover) being seeded on the young wheat in the spring and plowed under in the fall or the next spring before the corn is planted. In the event of clover failure, soybeans are substituted. The seeding of a legume cover crop in the wheat is commonly made, however, only on the plots representing the grain system of farming, these and other crop residues serving as a substitute for farm manure.

MATERIALS FOR SOIL TREATMENT

Altho there may be a number of ways of meeting the needs of the soil with respect to better production, the Illinois Agricultural Ex-

periment Station makes use largely of natural, home-grown materials. Instead of applying expensive complete fertilizers, which may produce a more-or-less rapid response, wide use is made of such natural materials as farm manure, legume crops, crop residues, ground limestone (both ordinary and dolomitic, each of which is found in abundance in Illinois), steamed bone meal (a farm product), and ground natural rock phosphate. Abundant information points to the fact that in the long run and under normal conditions the use of these materials in well-planned systems of farming usually proves to be most practical and economical. In some comparative experiments and on some abnormal soils, purchased nitrogen, manufactured acid phosphate, potassium salts, and other commercial fertilizers are used.

Standard Soil Treatment.—In connection with the standard four-year rotation mentioned above, a rather uniform system of soil treatment is practiced on most of the fields. Both the live-stock and the grain systems of farming, as already described, are followed. In each system on each series an untreated plot is left, which serves as a check for the systems of soil treatment applied. There are plots receiving only the application of manure and residues, as described; some which receive in addition pulverized limestone; some which receive as a further application finely ground raw rock phosphate; and as a still further application, in the grain system, one plot receives potash salts; besides which there is a third, or extra, untreated plot. The manner of applying and the amounts of the materials applied are as follows:

Manure.—The amount that can be made in farm practice from the produce of the land is usually applied for the corn crop.

Residues.—The straw, stalks, chaff, and cover crops that are produced upon the land are returned at the most convenient time during the rotation.

Limestone.—Four tons per acre is put on as an initial application, and thereafter two tons every four years, preferably after the land is plowed for wheat, the limestone being mixed with the surface soil in preparing the seed bed.

Phosphate.—One ton is applied on the clover sod preceding the plowing of the land for wheat. Disking in order to mix the phosphate with the soil before plowing is desirable. (After four or five rotations, the amount applied will be reduced to 800 pounds per acre every four years.)

Potash Salts.—The standard application is 800 pounds of kainit once during the rotation, usually with phosphate before the wheat.

EXPLANATION OF SYMBOLS USED

0=Untreated land

M=**M**anure

R=**R**esidues

L=**L**imestone

P=**P**hosphorus (raw rock phosphate or steamed bone meal)

K=**K**ainit or other salt of potassium

N=**N**itrogen (usual application 800 pounds dried blood)

Cv.=**C**over crop (legumes)

(aP)=acid **P**hosphate

(b**P**)=Steamed **b**one meal (**P**hosphorus)

(sP)=slag **P**hosphate

(rP)=rock **P**hosphate

The heavy vertical rule indicates the beginning of full treatment.

TABLE 1.—ALEDO FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910 Oats[5]	1911 Corn[1]	1912 Oats[2]	1913 Clover[2]	1914 Wheat[3]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre							
101	0.....	60.2	69.3	49.2	(3.02)	27.0	52.8	51.9	(1.46)
102	M.....	37.5	68.1	38.1	(3.16)	29.2	67.7	62.5	(2.23)
103	ML....	60.6	67.6	40.8	(3.29)	31.8	67.9	65.8	(2.24)
104	MLP...	60.8	65.1	41.4	(3.55)	34.6	72.2	71.9	(2.38)
105	0.....	48.1	70.7	40.3	2.33	30.0	56.8	56.2	.50
106	R.....	55.0	64.6	40.6	2.42	30.6	58.3	52.5	.58
107	RL....	53.4	66.8	45.0	2.67	33.1	61.5	57.8	1.25
108	RLP...	46.1	69.2	46.9	1.92	36.1	69.1	60.0	1.75
109	RLPK..	61.4	65.8	43.1	2.50	32.7	63.1	62.8	1.33
110	0.....	53.1	67.1	45.2	(3.06)	26.8	55.6	58.1	(1.93)
		Soy-beans[5]	Wheat[4]	Corn	Oats	Clover	Wheat	Corn	Oats
201	0.....	10.7	14.5	69.7	46.4	(1.03)	34.4	40.9	67.3
202	M.....	11.0	14.7	78.8	43.4	(1.40)	40.8	50.9	68.3
203	ML....	15.3	12.3	78.2	45.8	(2.54)	49.2	60.0	73.8
204	MLP...	13.7	9.7	83.1	45.9	(2.59)	50.0	57.9	53.6
205	0.....	13.8	13.4	71.6	46.2	1.17	42.5	45.3	72.2
206	R.....	14.2	13.7	73.9	40.6	.83	49.6	50.4	83.1
207	RL....	12.8	9.1	78.8	37.8	.83	49.6	52.9	88.3
208	RLP...	10.8	14.4	84.5	41.7	.83	53.5	53.3	88.1
209	RLPK..	11.3	18.2	88.7	44.5	.17	50.4	52.6	92.3
210	0.....	11.7	15.0	80.5	45.5	(1.24)	39.6	48.7	75.5
		Oats[5]	Soy-beans[1]	Wheat[3]	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	64.1	15.7	11.5	45.8	42.2	(1.38)	10.2	40.5
302	M.....	58.6	17.1	12.6	44.2	51.6	(1.48)	22.2	55.5
303	ML....	64.7	15.9	11.7	51.0	52.3	(1.52)	15.8	64.4
304	MLP...	57.3	13.6	13.8	49.9	53.1	(1.59)	19.2	68.7
305	0.....	68.8	16.9	18.1	43.3	51.2	19.8	12.0	54.9
306	R.....	64.5	15.8	14.4	46.0	51.6	19.8	12.2	53.7
307	RL....	67.2	17.1	10.0	50.1	51.9	22.5	9.2	64.4
308	RLP...	55.9	13.3	10.8	48.8	55.2	24.0	12.8	68.6
309	RLPK..	66.7	13.2	13.3	50.5	52.5	24.8	16.2	70.1
310	0.....	53.6	15.0	9.0	44.8	45.8	(1.44)	13.7	55.6
		Corn[5]	Oats[1]	Soy-beans[2]	Wheat[3]	Corn	Oats	Clover	Wheat
401	0.....	45.9	53.3	(1.41)[6]	39.6	43.7	71.9	(3.26)	21.4
402	M.....	74.9	51.7	(1.41)	37.7	57.6	82.0	(3.63)	23.3
403	ML....	81.2	53.4	(1.41)	38.0	60.0	89.7	(3.90)	18.6
404	MLP...	82.1	51.6	(1.41)	37.7	62.9	93.4	(3.86)	19.4
405	0.....	80.9	39.7	16.4	38.2	38.7	73.4	.25	28.2
406	R.....	67.7	60.3	15.2	42.3	47.9	74.5	.33	26.9
407	RL....	67.4	62.8	14.6	38.8	48.3	83.6	.25	28.0
408	RLP...	71.7	62.5	16.4	40.0	48.4	81.2	.25	28.2
409	RLPK..	77.8	55.5	15.8	38.9	52.7	93.8	.18	22.7
410	0.....	67.1	52.3	14.5	34.7	40.7	58.3	(2.30)	20.8

[1]Residues only. [2]No manure, phosphate, or potassium. [3]No manure. [4]No manure or lime. [5]No treatment. [6]Estimated.

TABLE 3.—ANTIOCH FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied[1]	1902 Corn	1903 Corn	1904 Oats	1905 Wheat	1906 Corn	1907 Corn	1908 Oats	1909 Wheat	1910 Corn	1911 Corn	1912 Oats	1913 Clover	1914 Wheat	1915 Corn[3]	1916 Oats	1917 Clover
		Bushels or (tons) per acre															
101	0.....	44.8	36.6	17.8	18.5	35.9	12.4	65.6	12.2	5.2	34.4	21.3	(.50)	30.8	....	30.6	.50
102	L.....	45.1	38.9	12.8	10.3	31.5	9.5	61.6	11.7	3.0	24.6	17.5	(.60)	30.0	....	25.3	.00
103	LN.....	46.3	40.8	2.8	17.8	37.8	6.4	60.3	13.0	1.4	10.4	24.4	.00[2]	40.8	....	35.3	.67
104	LP.....	50.1	53.6	12.5	35.8	57.4	13.4	70.9	23.3	6.8	37.4	49.1	(1.32)	54.2	....	45.9	.83
105	LK.....	48.2	50.2	9.7	21.7	34.9	12.9	62.5	13.5	4.6	20.4	18.8	(.72)	34.0	....	28.8	.42
106	LNP.....	56.6	62.7	15.9	15.2	59.3	20.9	49.1	33.8	6.0	37.0	46.9	.00[2]	41.3	....	61.6	1.13
107	LNK....	52.1	54.9	10.3	11.8	39.0	11.1	52.6	21.0	1.6	7.0	16.9	.00[2]	43.2	. ..	31.9	1.17
108	LPK.. ..	60.7	66.0	19.7	28.7	59.1	18.2	59.4	26.2	3.2	42.2	35.9	(1.60)	46.0	....	40.6	.92
109	LNPK...	61.2	69.1	31.9	18.0	65.9	31.4	51.9	30.5	3.0	44.2	31.9	.00[2]	41.0	....	54.1	.67
110	NPK. .	59.7	71 8	37.2	16.3	66.3	28.8	55.9	34.5	4 0	49.0	38.1	.00[2]	37.8	....	47.8	1.33

[1]Crop residues in place of commercial nitrogen after 1911.
[2]No seed produced; clover plowed under on these plots.
[3]Corn crop failed in 1915.

TABLE 2.—ALEDO FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 6 crops	Oats 5 crops	Wheat[1] 4 crops	Clover 3 crops	Soybeans 1 crop
1	0	48.9	55.9	23.2	(2.19)	(1.38)
2	M	59.1	61.6	28.9	(2.42)	(1.48)
3	ML	63.6	65.5	28.9	(2.89)	(1.52)
4	MLP	65.8	63.6	30.8	(2.94)	(1.59)
5	0	51.8	59.8	28.2	.64	19.8
6	R	55.0	60.5	29.8	.58	19.8
7	RL	59.3	63.9	30.0	.78	22.5
8	RLP	62.1	65.2	32.7	.94	24.0
9	RLPK	63.0	69.2	30.5	.56	24.8
10	0	54.3	56.6	25.2	(1.82)	(1.44)

NOTE.—The rotation and soil treatment are both standard, as described in the introduction.

[1]No manure on 1914 wheat.

TABLE 4.—ANTIOCH FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 7 crops	Oats 4 crops	Wheat 3 crops	Clover seed 2 crops
1	0	24.2	33.8	20.5	.50
2	L	21.8	29.3	17.3	.30
3	LN	20.4	30.7	23.9	.33
4	LP	31.2	44.6	37.8	1.08
5	LK	24.4	30.0	23.1	.57
6	LNP	34.6	43.4	30.1	.57
7	LNK	23.7	27.9	25.3	.59
8	LPK	35.6	38.9	33.6	1.26
9	LNPK	39.2	42.4	29.8	.33
10	NPK	39.9	44.8	29.5	.67

GENERAL NOTES.—The original rotation was corn, corn, oats, and wheat. Nitrogen was supplied in 800 pounds of dried blood, phosphorus in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate per acre per annum. Since the application of 470 pounds of slacked lime in 1902, no further applications were made until 1912. In 1911 the rotation was changed to corn, oats, clover, and wheat with clover seeding on the nitrogen plots. The soil treatment remained the same except that instead of applying nitrogen, all crop residues were plowed under, and an application of 4,000 pounds of limestone per acre was made once during the rotation.

TABLE 5.—BLOOMINGTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1902 Corn	1903 Corn	1904 Oats	1905 Wheat	1906 Clover[2] hay	1907 Corn	1908 Corn	1909 Oats	1910 Clover	1911 Wheat	1912 Corn	1913 Corn	1914 Oats	1915 Soybeans[3]	1916 Wheat	1917 Corn
		Bushels or (tons) per acre															
101	0.....	30.8	63.9	54.8	30.8	(.39)	60.8	40.3	46.4	(1.56)	22.5	55.2	32.4	29.8	....	20.5	24.3
102	L.....	37.0	60.3	60.8	28.8	(.58)	63.1	35.3	53.6	(1.09)	22.5	47.9	30.0	40.6	....	15.8	19.2
103	LR[1]....	35.1	59.5	69.8	30.5	(.46)	64.3	36.9	49.4	.83	25.6	62.5	37.5	30.8	....	21.1	29.6
104	LP.....	41.7	73.0	72.7	39.2	(1.65)	82.1	47.5	63.8	(4.21)	57.6	74.5	44.1	45.0	....	38.8	41.0
105	LK.....	37 7	56.4	62.5	33.2	(.51)	64.1	33.2	45.3	(1.26)	21.7	57.8	32.1	35.8	....	16.7	30.2
106	LR[1]P...	43.9	77.6	85.3	50.9	(0.00)	78.9	45.8	72.5	1.67	60.2	86.1	50.4	62.3	....	40.2	47.6
107	LR[1]K...	40.4	58.9	66.4	29.5	(.81)	64.3	31.0	51.1	.33	27.3	58.9	34.5	34.5	....	18.7	31.1
108	LPK....	50.1	74.8	70.3	37.8	(2.36)	81.4	57.2	59.5	(3.27)	54.0	79.2	49.4	63.1	....	39.9	47.6
109	LR[1]PK.	52.7	80.9	90.5	51.9	(0.00)	88.4	58.1	64.2	.42	60.4	83.4	49.0	54.4	....	43.8	48.3
110	R[1]PK...	52 3	73 1	71.4	51 1	(0 00)	78 0	51.4	55 3	.60	61 0	78.3	33.8	44.8		39.2	51.2

[1]Commercial nitrogen was used from 1902 to 1905.
[2]Clover partly smothered by previous wheat crop.
[3]Soybeans completely destroyed by hail.

TABLE 7.—CARLINVILLE FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE[1]; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910 Wheat[1]	1911 Corn	1912 Oats	1913 Soybeans	1914 Wheat	1915 Corn	1916 Oats	1917 Sweet clover[4]
		Bushels or (tons) per acre							
101	0.....	8.1	36.3	19.1	(1.45)	7.8	36.4	31.6	(0.0)
102	M.....	9.3	42.9	23.8	(1.54)	10.4	47.7	40.6	(0.05)
103	ML.....	10.4	50.7	29.7	(1.79)	17.8	56.9	48.3	(1.76)
104	MLP...	12.9	52.7	32.2	(1.83)	19.6	58.6	50.5	(1.91)
105	0.....	9.1	38.0	20.3	13.0	8.4	36.6	30.6	....
106	R.....	8.4	37.3	19.2	13.2	7.4	49.1	32.0	....
107	RL.....	8.8	45.7	26.9	15.8	12.8	68.0	49.5	....
108	RLP....	10.3	49.4	27.5	17.8	17.2	71.8	55.0	....
109	RLPK..	9.3	53.6	28.3	15.3	15.6	75.2	46.1	....
110	0.....	6.8	40.8	19.1	(1.23)[5]	7.3	38.4	27.0	(.17)
		Cowpeas[2]	Wheat[3]	Corn	Oats	Soybeans	Wheat	Corn	Oats
201	0.....	(.65)	21.3	30.6	5.1	(1.20)	14.2	28.4	46.1
202	M.....	(.62)	23.6	41.4	2.3	(1.27)	19.7	39.9	62.2
203	ML.....	(.74)	26.1	52.1	3.0	(1.50)	30.0	47.0	75.8
204	MLP....	(.80)	27.8	46.0	2.8	(1.50)	28.0	49.3	76.2
205	0.....	(.65)	22.1	25.4	1.9	10.2	14.4	28.7	45.0
206	R.....	....	20.4	28.7	1.9	10.4	16.7	30.8	51.9
207	RL.....	....	28.6	35.6	2.0	13.9	28.8	37.4	72.3
208	RLP....	....	30.3	39.6	2.3	14.8	30.0	37.8	77.0
209	RLPK..	....	32.7	44.7	3.8	12.9	27.1	43.2	81.2
210	0.....	(.64)	28.2	35.1	5.5	(1.37)[5]	18.6	32.8	46.2
		Oats[2]	Clover[3]	Wheat[3]	Corn	Oats	Clover	Wheat	Corn
301	0.....	32.5	(.82)	7.3	21.1	1.9	(2.31)	5.0	39.2
302	M.....	32.8	(.79)	7.6	24.7	2.2	(2.45)	5.8	63.8
303	ML.....	46.4	(1.00)	10.0	32.4	4.1	(2.97)	9.4	72.2
304	MLP...	45.6	(1.30)	12.3	33.2	3.9	(2.12)	11.7	71.3
305	0.....	45.6	(1.51)	9.8	23.2	3.4	.50	9.0	60.1
306	R.....	47.0	.17	8.2	16.4	3.9	.58	8.0	65.3
307	RL.....	46.6	.33	12.7	18.7	3.9	.50	11.4	63.7
308	RLP....	45.0	.33	14.3	18.3	4.5	.50	13.7	66.6
309	RLPK..	40.6	.33	19.0	17.7	4.4	.25	18.2	71.8
310	0.....	38.8	(.97)	18.8	25.0	3.1	(1.95)	9.0	48.6
		Corn[3]	Oats[3]	Soybeans[3]	Wheat[3]	Corn	Oats	Clover	Wheat
401	0.....	48.7	30.6	1.11	10.9	3.3	71.7	(1.17)	13.2
402	M.....	49.6	21.1	(1.19)	7.2	6.6	74.7	(1.48)	15.8
403	ML.....	48.3	32.9	(1.29)	7.7	6.8	70.5	(1.71)	23.4
404	MLP...	52.0	34.7	(1.37)	9.6	7.2	70.2	(1.58)	25.7
405	0.....	49.5	38.4	11.3	7.7	2.5	68.8	2.75	19.8
406	R.....	43.7	30.3	12.6	15.3	3.0	71.1	2.75	9.7
407	RL.....	38.1	31.7	13.2	7.2	5.5	69.1	3.17	14.8
408	RLP....	48.5	33.3	15.2	5.3	6.6	70.2	3.00	13.8
409	RLPK..	47.1	34.4	14.3	8.5	6.2	66.7	2.42	10.6
410	0.....	45.6	33.8	11.5	8.7	3.5	69.1	(1.20)	15.6

[1]The soil in this field, especially in Series 100, grades toward brown-gray silt loam on tight clay. [2]No manure or residues. [3]No manure. [4]No seed produced. [5]Estimated.

TABLE 6.—BLOOMINGTON FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels per acre		
		Corn 7 crops	Oats 3 crops	Wheat 3 crops
1	0	44.0	43.7	24.6
2	L	41.8	51.7	22.4
3	LR	46.5	50.0	25.7
4	LP	58.1	60.5	45.2
5	LK	44.9	47.9	23.9
6	LRP	61.5	73.4	50.4
7	LRK	45.6	50.7	25.2
8	LPK	62.8	64.3	43.9
9	LRPK	65.8	69.7	52.0
10	RPK	59.7	57.2	50.4

GENERAL NOTES.—The original rotation of corn, corn oats, wheat, and clover was changed in 1909 to corn, corn, oats, clover, and wheat with clover seeding. Until 1905 nitrogen was applied in 800 pounds of dried blood per acre per annum. Thereafter crop residues were substituted. Phosphorus is applied in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate per acre per annum. Slacked lime at the rate of 320 pounds per acre was applied in 1902 and no further applications were made until 1914, when an application of 5,000 pounds per acre was made; similar applications will be made every five years.

TABLE 8.—CARLINVILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 7 crops	Oats 6 crops	Wheat 4 crops	Clover 3 crops	Soybeans 2 crops
1	0	27.9	29.3	10.0	(1.16)	(1.32)
2	M	38.1	34.3	12.9	(1.33)	(1.40)
3	ML	45.4	38.6	20.1	(2.14)	(1.64)
4	MLP	45.5	39.3	21.2	(1.86)	(1.66)
5	0	30.6	28.3	12.9	1.08	11.6
6	R	32.9	30.0	10.4	1.11	11.8
7	RL	39.2	37.3	17.0	1.22	14.9
8	RLP	41.4	39.4	18.7	1.16	16.3
9	RLPK	44.6	38.4	17.9	.89	14.1
10	0	32.0	28.3	12.6	(1.10)	(1.30)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

TABLE 9.—CARTHAGE FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1911 Corn[1]	1912 Oats[2]	1913 Clover[5]	1914 Wheat[6]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre						
101	0.....	39.4	31.4	(2.46)	18.8	35.9	20.3	(2.68)
102	M.....	43.7	33.9	(2.64)	19.2	43.0	31.2	(2.53)
103	ML.....	38.5	33.3	(3.06)	22.9	40.0	32.8	(2.37)
104	MLP...	41.0	37.0	(3.02)	23.6	47.0	35.9	(2.54)
105	0.....	35.0	30.2	.67	25.6	23.1	23.4	.67
106	R.....	30.7	24.4	.67	24.7	23.4	25.0	.67
107	RL.....	31.6	26.1	.50	25.0	37.0	29.7	.58
108	RLP....	31.2	26.3	.50	27.7	45.0	34.4	1.08
109	RLPK..	32.0	26.1	.50	28.3	47.6	40.6	.92
110	0.....	36.5	31.4	(3.64)	28.4	24.2	21.9	(2.00)
		Wheat[7]	Corn[3]	Oats	Clover	Wheat	Corn	Oats
201	0.....	4.3	33.3	27.2	(1.14)	24.0	23.5	49.7
202	M.....	4.9	38.8	30.0	(1.25)	26.7	27.9	51.7
203	ML.....	3.8	39.7	32.0	(1.52)	28.7	32.9	57.8
204	MLP...	4.7	40.8	33.9	(1.66)	30.1	29.1	66.9
205	0.....	4.5	30.4	26.7	1.42	24.0	23.2	56.4
206	R.....	4.4	42.3	22.5	1.42	30.8	23.4	67.0
207	RL.....	5.0	41.3	24.4	1.33	34.2	29.9	72.0
208	RLP....	5.4	55.4	27.5	1.50	38.0	27.6	66.1
209	RLPK..	5.3	57.2	26.9	1.08	38.8	31.7	64.1
210	0.....	4.5	28.2	25.0	(1.88)	31.2	20.6	40.9
		Soy-beans[1]	Wheat[4]	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	11.0	7.4	25.3	18.0	(2.40)	7.2	22.1
302	M.....	10.3	3.6	26.1	15.6	(2.90)	12.5	26.5
303	ML.....	9.3	3.8	23.7	17.2	(2.99)	16.7	36.2
304	MLP...	11.3	5.3	34.8	17.0	(3.11)	22.5	41.4
305	0.....	10.8	5.7	28.6	17.8	19.2	7.5	17.4
306	R.....	10.8	4.3	47.8	23.4	21.7	8.3	54.2
307	RL.....	11.5	6.8	49.7	26.6	23.3	18.8	61.9
308	RLP....	10.3	5.5	49.1	23.6	29.7	20.0	67.8
309	RLPK..	10.7	7.1	51.3	24.2	26.7	25.0	66.1
310	0.....	10.2	6.5	29.2	19.2	(2.39)	10.8	37.0
		Oats[1]	Soy-beans[2]	Wheat[6]	Corn	Oats	Clover	Wheat
401	0.....	12.7	20.6	24.0	24.6	30.6	(2.23)	18.8
402	M.....	10.6	17.9	29.8	39.5	37.8	(1.88)	19.2
403	ML.....	14.8	19.6	29.1	40.8	48.4	(2.18)	18.9
404	MLP...	15.5	20.4	24.2	44.7	49.7	(2.72)	17.5
405	0.....	12.8	16.9	21.0	26.4	30.3	.08	16.7
406	R.....	9.8	15.0	16.4	35.4	35.9	.17	18.9
407	RL.....	13.3	14.6	24.2	47.2	54.7	.08	21.7
408	RLP....	10.3	16.5	23.2	57.2	60.3	.17	15.2
409	RLPK..	11.3	16.3	23.2	58.3	59.4	.50	24.1
410	0.....	10.9	17.0	22.7	31.3	28.1	(2.44)	16.0

[1]No soil treatment. [2]Residues only. [3]No lime. [4]No manure or lime. [5]No manure, phosphate, or potassium. [6]No manure. [7]Phosphorus and potassium only.

TABLE 11.—CLAYTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1911 Corn[1]	1912 Oats[2]	1913 Soybeans[5]	1914 Wheat[6]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre						
101	0.....	45.8	43.0	10.3	5.0	23.3	19.2	(2.01)
102	M.....	50.0	42.3	(1.49)	4.8	27.3	21.6	(2.51)
103	ML.....	52.4	39.3	(1.58)	5.3	28.6	20.8	(3.26)
104	MLP...	48.7	46.9	(1.50)	5.4	31.5	23.0	(3.55)
105	0.....	54.6	44.1	12.1	6.2	25.6	20.3	1.92
106	R.....	56.5	40.0	12.5	8.5	36.0	20.2	2.17
107	RL.....	57.6	41.6	13.5	6.8	55.4	31.4	2.17
108	RLP....	55.5	42.3	13.0	8.8	55.2	38.6	2.00
109	RLPK..	52.0	43.8	11.8	7.9	56.5	35.9	2.00
110	0.....	54.0	50.0	12.7	7.5	27.3	25.9	(2.94)
		Oats[1]	Corn[3]	Oats	Soybeans	Wheat	Corn	Oats
201	0.....	19.5	35.4	45.5	(1.28)	11.2	17.1	63.8
202	M.....	19.1	47.4	55.3	(1.41)	17.9	21.4	71.6
203	ML.....	16.9	36.9	51.6	(1.38)	14.5	21.5	70.6
204	MLP...	20.9	56.8	56.1	(1.45)	23.2	21.0	72.3
205	0.....	18.9	38.7	45.9	14.2	7.0	15.2	65.9
206	R.....	18.1	52.1	45.9	16.7	16.2	26.7	69.8
207	RL.....	18.9	50.5	48.3	18.3	16.1	26.8	82.8
208	RLP....	20.9	54.4	52.2	19.6	30.2	26.9	77.5
209	RLPK..	17.5	55.5	47.7	17.1	29.2	24.6	83.6
210	0.....	25.0	36.2	45.5	(1.40)[7]	14.8	15.1	65.9
		Soybeans[1]	Barley[4]	Corn	Oats	Soybeans	Wheat	Corn
301	0.....	12.0	19.6	35.4	10.0	(2.52)	1.6	30.4
302	M.....	12.5	19.7	55.2	14.7	(2.58)	2.0	52.8
303	ML.....	13.0	20.2	55.1	13.3	(2.83)	3.9	61.2
304	MLP...	12.8	22.6	58.4	15.9	(3.11)	4.6	60.5
305	0.....	14.6	21.5	42.1	13.9	12.5	1.8	35.2
306	R.....	14.4	21.4	49.7	17.3	12.5	4.4	52.6
307	RL.....	14.8	22.2	52.2	16.6	19.2	5.6	59.9
308	RLP....	14.8	24.5	55.1	18.4	19.6	7.5	65.6
309	RLPK..	14.8	30.8	52.6	16.9	22.5	9.0	64.0
310	0.....	13.8	18.9	43.6	14.7	(2.21)	1.7	20.3
		Oats[1]	Soybeans[2]	Wheat[6]	Corn	Oats	Clover	Wheat
401	0.....	27.0	16.4	32.9	36.0	58.1	(2.30)	18.0
402	M.....	32.2	(1.36)	31.0	37.8	61.6	(2.77)	21.7
403	ML.....	30.0	(1.36)	31.6	48.7	64.5	(2.76)	21.6
404	MLP...	30.8	(1.36)	34.0	46.1	69.5	(2.51)	23.5
405	0.....	32.8	17.5	34.1	29.9	60.5	1.83	20.4
406	R.....	33.3	16.7	33.3	30.4	50.5	1.58	26.7
407	RL.....	33.3	16.9	33.8	41.6	62.5	1.00	21.5
408	RLP....	39.3	17.2	37.0	31.9	68.0	1.00	23.2
409	RLPK..	34.7	16.3	37.3	45.5	65.6	1.25	24.7
410	0.....	35.6	17.5	35.0	34.8	62.2	(2.15)	16.0

[1]No treatment. [2]Residues only. [3]No lime. [4]No manure or lime. [5]No manure, phosphate or potassium. [6]No manure. [7]Estimated.

TABLE 10.—CARTHAGE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat[1] 4 crops	Clover 3 crops	Soybeans 1 crop
1	0	26.3	29.2	17.2	(2.02)	(2.40)
2	M	32.6	33.3	19.4	(1.89)	(2.90)
3	ML	34.7	37.6	21.8	(2.02)	(2.99)
4	MLP	39.4	40.7	23.4	(2.31)	(3.11)
5	0	23.4	30.9	18.4	.72	19.2
6	R	36.8	34.8	20.7	.75	21.7
7	RL	45.1	41.5	24.9	.66	23.3
8	RLP	49.3	42.4	25.2	.92	29.7
9	RLPK	51.0	43.0	29.0	.83	26.7
10	0	28.5	27.0	21.6	(2.11)	(2.39)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 wheat.

TABLE 12.—CLAYTON FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat[1] 4 crops	Clover 2 crops	Soybeans 2 crops
1	0	28.4	39.3	9.0	(2.16)	(1.90)
2	M	38.9	45.0	11.6	(2.64)	(2.00)
3	ML	43.0	44.2	11.3	(3.01)	(2.10)
4	MLP	43.5	47.4	14.2	(3.03)	(2.28)
5	0	29.6	41.3	8.9	1.88	13.3
6	R	39.1	40.7	14.0	1.88	14.6
7	RL	47.2	48.3	12.5	1.59	18.8
8	RLP	46.9	50.9	17.4	1.50	19.6
9	RLPK	48.7	49.9	17.7	1.62	19.8
10	0	28.2	42.8	10.0	(2.54)	(1.80)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 wheat.

TABLE 13.—CUTLER FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1902 Corn[1]	1903 Oats[1]	1904 Wheat[1]	1905 Clover[1]	1906 Corn[1]	1907 Corn	1908 Wheat	1909 Soybeans[2]	1910 Corn	1911 Oats	1912 Clover	1913 Wheat	1914 Corn	1915 Oats	1916 Clover	1917 Wheat
		Bushels or (tons) per acre															
98	RL(bP)K	...	....	21.0	(2.74)	45.8	52.5	19.6	....	39.8	18.4	.67	34.7	3.6	35.8	1.83	40.6
99	RL(aP)K	...	....	23.1	(2.52)	46.2	60.6	24.2	....	35.2	16.7	1.67	38.8	2.1	40.9	1.25	46.2
100	RL(rP)K	...	....	20.5	(2.51)	52.5	63.8	19.6	....	46.2	20.0	2.58	37.3	6.4	29.1	2.00	45.5
101	0	6.8	15.2	9.0	(1.33)	37.3	41.3	5.3	(.63)	26.0	15.8	(.18)	10.4	6.3	18.4	(.42)	15.5
102	L	5.2	13.7	10.5	(1.71)	40.9	36.9	8.6	(.73)	33.1	20.9	(.46)	20.9	6.0	25.0	(.84)	27.4
103	RL	1.2	16.6	9.8	(1.69)	41.6	32.8	12.6	....	29.7	20.0	1.92	22.8	3.5	31.2	1.92	29.3
104	LP	3.5	14.2	21.9	(1.89)	40.5	24.7	19.3	(.69)	26.7	20.8	(.68)	26.1	2.9	28.4	(.95)	33.2
105	LK	2.9	18.0	10.0	(1.80)	43.1	56.9	11.5	(.61)	44.8	20.8	(.64)	27.3	2.7	30.2	(1.00)	36.4
106	RLP	2.2	20.3	15.8	(1.98)	42.3	23.8	20.4	....	29.1	22.3	2.58	29.2	2.1	32.5	2.42	36.8
107	RLK	2.8	20.0	8.2	(2.11)	50.0	54.7	13.0	....	44.6	23.8	3.08	29.6	4.5	39.4	2.25	34.3
108	LPK	10.2	27.5	22.4	(2.77)	57.1	59.4	20.9	(.96)	52.6	25.6	(.91)	38.0	6.7	32.7	(1.41)	43.4
109	RLPK	4.6	28.7	17.7	(2.79)	55.7	55.0	21.3	....	49.9	23.9	3.25	37.2	3.8	40.6	2.58	42.8
110	RPK	5.4	37.7	15.0	(2.83)	55.5	40.3	18.0	....	37.7	19.4	3.33	34.8	2.1	38.8	3.17	31.9
111	L(aP)K	...	....	24.2	(2.40)	52.7	51.9	18.3	(1.04)	37.9	23.8	(.65)	37.3	5.8	39.8	(1.38)	46.9
112	L(rP)K	...	....	13.1	(2.06)	47.3	43.8	16.1	(1.11)	49.3	24.4	(.64)	26.2	8.8	34.2	(1.15)	42.1
		Cowpeas[3]	Wheat	Corn	Cowpeas	Wheat	Corn	Soybeans	Wheat	Corn	Soybeans	Wheat	Corn	Soybeans[5]	Wheat	Corn	Soybeans
201	0	(.71)	6.0	22.8	(1.35)	12.1	15.9	4.0	7.8	7.7	(.63)	1.8	8.1	....	.5	13.5	(.75)
202	R	...	9.2	24.7	(1.38)	13.3	19.1	5.3	10.8	12.5	5.8	1.3	13.0	....	.5	21.6	4.2
203	M	(.98)	12.1	36.9	(1.72)	14.6	26.3	4.9	10.0	37.8	(1.14)	3.6	18.3	....	1.8	28.8	(1.24)
204	RL	...	13.5	30.6	(1.48)	23.4	29.1	5.1	15.9	35.9	11.5	3.0	22.0	....	1.8	38.4	12.7
205	ML	(.86)	13.3	44.1	(1.62)	21.6	35.0	4.8	15.8	40.9	(1.92)	5.3	24.4	....	2.4	40.8	(1.59)
206	RLP	...	20.3	30.6	(1.64)	26.5	31.3	4.6	20.2	44.0	11.8	5.7	25.5	....	2.2	43.8	13.4
207	MLP	(.95)	20.8	30.9	(1.79)	24.6	36.9	5.1	19.3	48.4	(1.91)	6.6	24.6	....	2.6	43.6	(1.51)
208	RLPK	...	26.8	60.0	(1.82)	30.4	57.8	6.8	19.0	69.5	15.0	7.2	28.1	....	3.3	43.1	12.9
209	MLPK	(1.18)	24.0	70.9	(1.91)	29.5	45.6	6.9	16.9	54.7	(2.03)	7.7	32.7	....	5.2	42.7	(1.65)
210	LPK	(1.41)	21.1	71.9	(2.19)	26.8	35.6	8.1	16.4	41.7	(1.98)	7.5	30.0	....	3.9	34.2	(1.36)

TABLE 13.—CUTLER FIELD, *Concluded*

Plot No.	Soil treatment applied	1902 Oats[3]	1903 Cowpeas[5]	1904 Wheat	1905 Corn	1906 Cowpeas	1907 Wheat	1908 Corn	1909 Soybeans[2]	1910 Wheat	1911 Corn	1912 Soybeans	1913 Wheat	1914 Corn	1915 Soybeans[5]	1916 Wheat	1917 Corn
		Bushels or (tons) per acre															
211	0.....	19.6	....	9.0	24.1	(.43)	14.8	27.0	(.43)	7.3	22.9	(1.08)	8.8	3.0	....	.2	29.9
212	R.....	23.8	....	8.5	52.0	2.6	16.6	26.6	....	11.8	24.6	10.7	5.6	6.4	....	.2	34.2
213	M.....	26.6	....	18.2	51.1	(.81)	25.2	43.0	(.95)	10.2	31.4	(1.20)	8.3	9.0	....	.2	39.7
214	RL.....	26.9	....	8.8	57.7	3.2	26.1	37.6	....	21.9	44.0	15.0	21.1	11.5	....	2.2	48.0
215	ML.....	27.8	....	18.4	69.7	(1.03)	30.7	50.3	(1.35)	15.5	43.8	(1.61)	17.8	14.4	....	1.8	57.5
216	RLP.....	28.0	....	14.3	57.3	5.2	32.0	38.6	....	26.7	47.6	14.3	32.2	6.4	....	2.3	48.3
217	MLP.....	25.1	....	19.7	69.3	(1.40)	37.2	50.7	(1.25)	18.3	52.0	(1.78)	29.7	3.8	....	2.4	57.8
218	RLPK....	31.1	....	16.4	71.3	9.8	36.7	53.9	....	27.6	54.5	17.9	31.7	1.0	....	1.3	59.0
219	MLPK...	28.8	....	19.7	64.7	(1.97)	36.3	54.8	(1.33)	17.3	50.4	(1.90)	29.6	.1	....	1.6	59.5
220	LPK.....	26.7	....	15.0	37.5	(1.73)	29.5	50.9	(1.56)	14.2	37.7	(1.79)	23.3	1.0	....	1.5	50.1
		Wheat[4]	Corn[6]	Cowpeas[5]	Wheat	Corn	Cowpeas	Wheat	Corn	Soybeans	Wheat	Corn	Soybeans	Wheat	Corn	Soybeans	Wheat
221	0.....	12.8	4.0	...	8.7	28.6	(.58)	6.4	17.5	(1.45)	5.6	22.2	(.14)	7.2	.1	(.46)	9.5
222	R.....	12.3	3.7	....	12.8	30.9	(.68)	5.5	22.6	13.1	5.0	26.4	.8	8.8	.1	3.4	7.4
223	M.....	12.4	3.5	...	14.9	33.2	(.73)	7.0	25.9	(1.73)	5.8	43.5	(.18)	10.2	.3	(.63)	13.2
224	RL.....	13.2	3.7	...	13.8	28.1	(.90)	10.6	35.8	17.5	9.0	38.4	1.5	20.9	4.8	7.8	20.0
225	ML.....	12.9	3.6	...	20.1	35.1	(1.05)	13.8	36.6	(2.16)	10.4	53.9	(.39)	22.4	6.1	(1.74)	27.9
226	RLP.....	16.9	2.4	...	18.2	29.1	(1.11)	16.4	33.8	17.6	12.6	42.3	1.1	21.9	3.5	7.1	19.6
227	MLP.....	16.1	2.1	...	20.1	32.8	(.93)	15.6	31.6	(2.30)	14.8	52.4	(.41)	19.8	4.2	(1.62)	26.3
228	RLPK....	20.8	3.7	...	23.5	48.4	(1.96)	21.4	41.8	22.5	18.3	59.9	1.4	23.4	1.0	12.9	14.6
229	MLPK...	19.4	6.1	....	23.0	35.3	(2.27)	20.7	34.2	(2.59)	18.7	47.8	(.59)	20.4	3.3	(1.92)	32.1
230	LPK.....	20.8	9.2	....	21.5	37.2	(2.19)	17.7	32.6	(2.67)	18.7	46.9	(.54)	22.7	3.2	(1.58)	26.6

GENERAL NOTES.—Series 100 has been conducted as a fertility test, with a rotation chiefly of corn, oats, clover, and wheat with clover seeding. Nitrogen in 800 pounds of dried blood per acre per year was applied until 1905, after which residues were substituted. The regular application of phosphorus is 200 pounds steamed bone meal per acre per year, except that 333 pounds of acid phosphate is applied to Plots 99 and 111, and 666 pounds of raw phosphate to Plots 100 and 112. On all potassium plots, an application of 100 pounds of potassium sulfate has been made per acre per year. Limestone is applied at rate of 1,000 pounds. On Series 200 the rotation is wheat, corn, and legumes. The residues and manure supply the nitrogen; phosphorus is supplied in 200 pounds of steamed bone meal and potassium in 100 pounds potassium sulfate per acre per annum. Four hundred and fifty pounds of slacked lime was applied in 1902, 3 tons in 1903, and no further application made until 1911, when applications of limestone were begun at the rate of 1,000 pounds per acre per year.

[1]Commercial nitrogen in place of residues. [2]Legume plowed under on residue plots. [3]No manure or residues. [4]No manure, residues, or lime. [5]Crop failure. [6]No manure.

TABLE 14.—CUTLER FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 4 crops	Oats 2 crops	Wheat 4 crops	Clover 3 crops[1]
98	RL(bP)K	35.4	27.1	29.0	1.75
99	RL(aP)K	36.0	28.8	33.1	1.81
100	RL(rP)K	42.2	24.6	30.7	2.36
101	0	27.7	17.1	10.0	(.64)
102	L	29.2	23.0	16.9	(1.00)
103	RL	26.9	25.6	18.6	1.84
104	LP	23.7	24.6	25.1	(1.17)
105	LK	36.9	25.5	21.3	(1.14)
106	RLP	24.3	27.4	25.6	2.33
107	RLK	38.4	31.6	21.3	2.48
108	LPK	44.0	29.1	31.2	(1.69)
109	RLPK	41.1	32.2	29.8	2.87
110	RPK	33.9	29.1	24.9	3.11
111	L(aP)K	37.1	31.8	31.7	(1.47)
112	L(rP)K	37.3	29.3	24.4	(1.28)

Plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 14 crops	Wheat 15 crops	Cowpeas or soybeans 13 crops[2]	
201	0	17.4	7.0	(0.59)	....
202	R	22.5	7.8	5.1	....
203	M	30.4	10.3	(.83)	....
204	RL	33.0	14.1	7.5	....
205	ML	39.5	15.8	(1.14)	....
206	RLP	34.4	18.1	7.9	....
207	MLP	38.5	18.5	(1.18)	....
208	RLPK	46.4	20.1	10.5	....
209	MLPK	42.6	20.2	(1.21)	....
210	LPK	36.5	17.8	(1.41)	....

[1]First crop all hay. [2]1908 seed only.

TABLE 15.—DEKALB FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1906 Corn	1907 Corn	1908 Oats	1909 Clover	1910 Corn	1911 Corn	1912 Oats	1913 Clover	1914 Corn	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre											
103	RP	74.8	33.0	44.1	0.00	58.9	62.4	76.6	0.00	69.6	37.8	68.4	0.0
106	RP	76.2	37.8	40.9	0.00	62.4	64.1	76.1	0.00	78.3	39.7	63.9	0.0
109	R	73.0	35.3	44.1	0.00	55.7	54.5	63.1	0.00	68.4	33.3	62.1	0.0
110	M	72.8	35.5	40.6	(1.80)	54.2	56.0	66.2	(1.26)	78.7	30.4	69.1	(.79)
113	MP	66.0	30.4	45.6	(2.40)	58.6	59.3	74.1	(1.74)	76.9	39.6	66.6	(.59)
116[1]	MP	51.6	0.0	28.1	(2.00)	45.2	0.0	60.5	(1.74)	79.7	33.3	54.4	(.52)
		Corn	Oats	Wheat	Clover	Corn	Oats	Oats	Clover	Corn	Oats	Wheat	Clover
123	RP	67.4	30.0	27.7	0.00	48.2	15.0	42.3	0.00	81.5	49.8	35.2	0.00
126	RP	92.8	35.6	38.5	0.00	70.9	12.2	41.1	0.00	84.1	51.2	43.4	0.00
129	R	67.3	33.4	37.3	0.00	63.9	18.1	55.9	0.00	61.3	40.7	35.1	0.00
130	M	69.3	33.8	33.0	(.60)	61.1	17.6	64.6	(.92)	69.4	26.9	29.3	(.92)
133	MP	76.8	39.1	43.0	(.90)	61.5	19.7	72.9	(1.96)	79.0	33.1	29.9	(.85)
136	MP	72.0	35.0	41.8	(.90)	57.9	14.0	78.1	(1.96)	77.7	36.9	28.0	(.81)
		Corn	Oats	Clover	Corn	Corn	Oats	Soy-beans	Corn	Corn	Oats	Clover	Corn
203	RP	64.6	28.1	(2.45)	56.8	48.4	38.6	(.45)	58.3	50.4	68.5	0.00	17.2
206	RP	66.6	28.7	(2.87)	47.1	45.2	39.2	(.90)	61.2	58.0	69.2	0.00	16.0
209	R	76.4	30.3	(2.40)	59.2	53.9	37.8	(1.20)	68.4	64.9	61.4	0.00	16.9
210	M	72.4	29.0	(2.60)	68.5	56.8	37.8	(1.10)	63.0	65.6	57.5	(1.84)	21.3
213	MP	45.4	28.1	(2.25)	66.5	52.7	26.9	(0.00)[2]	64.1	62.8	54.0	(1.82)	19.4
216	MP	76.0	28.9	(2.32)	63.0	46.4	27.0	(0.00)[2]	58.8	62.5	64.6	(1.82)	22.2
		Oats	Wheat	Clover	Corn	Oats	Wheat	Soy-beans	Corn	Oats	Wheat	Clover	Corn
223	RP	22.9	18.6	(2.92)	64.2	71.0	29.0	0.00	55.4	47.4	39.9	0.00	17.4
226	RP	26.1	19.0	(2.90)	76.8	74.0	33.0	0.00	52.7	50.4	42.7	0.00	17.0
229	R	24.1	14.6	(2.32)	59.8	76.2	25.9	0.00	59.0	44.6	39.0	0.00	8.8
230	M	26.4	19.3	(2.55)	70.2	81.0	34.8	(1.40)	63.3	45.4	39.2	(2.25)	16.7
233	MP	38.0	20.7	(2.67)	75.5	80.3	37.0	(1.40)	68.3	49.2	45.0	(2.56)	23.1
236	MP	36.9	22.7	(2.45)	72.0	79.5	36.7	(1.90)	65.4	45.7	38.6	(2.56)	27.6

[1]Alkali spot. [2]Growth practically all weeds.

TABLE 15.—DEKALB FIELD, *Concluded*

Plot No.	Soil treatment applied	1906 Oats	1907 Clover	1908 Corn	1909 Corn	1910 Oats	1911 Clover	1912 Corn	1913 Corn	1914 Oats	1915 Clover	1916 Corn	1917 Corn
		Bushels or (tons) per acre											
303	RP	23.6	(1.38)	66.1	55.1	68.3	0.00	63.7	54.4	53.2	2.00	46.1	11.3
306	RP	21.9	(1.38)	67.8	58.2	84.5	0.00	68.0	60.1	49.1	2.00	44.6	13.9
309	R	25.3	(1.25)	66.0	58.2	76.1	0.00	57.6	59.1	47.7	3.70	43.4	9.0
310	M	24.9	(1.45)	73.3	55.4	71.9	(1.30)	63.7	60.0	42.5	(1.59)	51.6	7.3
313	MP	24.6	(1.69)	69.2	52.8	80.9	(1.50)	83.1	53.4	43.2	(1.88)	53.0	11.2
316	MP	23.7	(1.69)	70.8	54.5	82.7	(1.50)	78.2	55.3	43.4	(1.88)	47.0	8.8
		Oats	Clover	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat	Clover	Corn	Oats
323	RP	27.9	(1.66)	55.9	70.1	31.2	0.00	67.2	57.4	39.0	0.00	48.6	87.0
326	RP	24.9	(1.66)	59.6	65.4	33.4	0.00	66.8	64.1	41.0	0.00	46.8	85.9
329	R	25.4	(1.30)	39.2	73.3	25.6	0.00	54.4	54.0	25.4	0.00	38.5	80.7
330	M	26.1	(1.30)	75.4	68.4	38.9	(.80)	69.9	66.4	33.5	(1.92)	50.7	77.1
333	MP	22.8	(1.90)	67.1	74.6	39.0	(1.46)	67.9	71.9	37.2	(2.19)	52.6	78.3
336	MP	23.6	(1.90)	72.6	67.3	45.9	(1.45)	66.8	71.7	39.5	(2.19)	54.7	74.5
		Cow-peas[3]	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Clover	Corn	Corn	Oats
403	RP	....	53.0	43.9	37.5	0.00	78.6	52.4	43.2	3.12	40.5	40.3	67.5
406	RP	....	54.9	46.5	43.8	0.00	75.8	60.2	43.6	3.12	44.0	45.7	78.6
409	R	....	47.7	30.9	50.8	0.00	49.7	39.5	33.6	1.29	26.5	37.9	67.6
410	M	....	65.8	50.9	60.1	(2.44)	63.1	56.7	39.7	(2.54)	35.9	42.2	85.3
413	MP	....	73.5	55.1	69.0	(3.41)	73.7	67.7	51.1	(3.32)	37.5	47.8	94.2
416	MP	....	74.3	54.3	67.3	(3.41)	72.3	62.4	54.7	(3.32)	44.4	45.4	93.1
		Soy-beans[3]	Corn	Oats	Oats	Clover	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat
423	RP	....	43.9	36.2	61.4	0.00	81.0	81.3	35.4	3.29	32.4	68.8	25.4
426	RP	....	45.3	31.7	59.4	0.00	80.0	77.6	33.1	3.29	38.7	64.8	20.7
429	R	....	43.5	37.3	66.1	0.00	76.4	77.8	27.7	4.50	30.9	62.5	25 2
430	M	....	58.1	42 8	72.3	(3.10)	76.8	75.0	36.0	(2.68)	42.4	66.5	25.4
433	MP	....	50.9	43.9	69.4	(3.08)	83.5	75.0	41.2	(3.05)	39.4	71.6	33.6
436	MP	....	50.8	41.2	59 5	(3 08)	86.7	71.3	37.2	(3.05)	47.1	73.7	34.7

[3]Yields not taken.

TABLE 16.—DEKALB FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 36 crops	Oats 27 crops	Wheat 9 crops	Clover 20 crops
3	RP	52.8	51.3	31.3	.84[1]
6	RP	56.2	52.0	35.0	.86[1]
9	R	49.7	50.7	28.4	.84[1]
10	M	56.5	52.4	32.1	(1.73)
13	MP	57.4	55.5	36.3	(2.06)
16	MP	54.4	53.2	36.1	(2.03)

GENERAL NOTES.—Two different rotations are practiced upon this field. On each series a rotation of corn, corn, oats, and clover is grown upon Plots 3 to 16, and corn, oats, wheat, and clover on Plots 23 to 36. The soil treatment as indicated is standard, as described in the introduction.

[1]First four crops harvested as hay.

TABLE 17.—DIXON FIELD: MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; IOWAN GLACIATION

Plot No.	Soil treatment applied	1910[1] Barley	1911 Corn[2]	1912 Oats[4]	1913 Clover[4]	1914 Wheat[5]	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre							
101	0.....	20.5	56.4	35.2	(3.14)	24.8	5.6	72.0	(1.62)
102	M.....	20.8	62.8	39.8	(3.32)	25.3	32.9	70.8	(1.82)
103	ML.....	24.4	60.5	47.2	(3.47)	26.6	38.1	79.2	(2.25)
104	MLP....	24.7	64.7	42.2	(3.56)	33.5	41.7	81.6	(2.40)
105	0.....	26.8	64.3	47.8	1.00	32.8	18.5	76.6	10.8
106	R.....	24.9	65.9	50.0	1.25	37.7	24.4	78.8	9.1
107	RL.....	24.4	67.5	49.5	1.00	34.2	29.0	81.2	10.8
108	RLP	22.3	68.2	44.5	1.00	37.9	33.0	83.4	11.0
109	RLPK...	20.8	69.2	49.4	.75	35.2	32.6	78.1	10.3
110	0	21.6	65.0	43.3	(2.96)	24.9	2.4	69.7	(1.28)
		Clover	Wheat[3]	Corn	Oats	Clover	Wheat	Corn	Oats
201	0.....	(1.69)	31.9	3.3	49.2	(1.76)	27.9	37.8	68.4
202	M.....	(1.56)	31.0	12.9	55.6	(2.13)	28.2	44.5	82.3
203	ML.....	(1.54)	33.8	11.4	52.7	(2.54)	29.2	49.5	85.6
204	MLP....	(1.87)	37.4	26.2	58.4	(2.77)	34.0	52.8	93.0
205	0.....	(1.87)	30.5	21.1	58.9	1.17[6]	28.0	43.4	76.1
206	R.....	...	37.9	37.5	58.4	1.42	31.3	44.3	77.7
207	RL.....	...	30.7	34.2	52.7	1.58	30.0	48.5	77.7
208	RLP....	...	41.0	42.2	58.6	2.17	36.8	50.4	85.9
209	RLPK...	...	41.6	61.5	56.1	2.00	34.6	49.4	84.4
210	0	(1.80)	30.6	20.4	52.3	1.83[6]	25.1	40.9	68.1
		Oats	Soybeans[2]	Barley[5]	Corn	Oats	Clover	Wheat	Corn
301	0.....	50.0	14.5	17.2	35.5	54.7	(1.35)	7.2	24.9
302	M.....	56.9	12.8	30.6	56.6	60.6	(3.38)	9.2	55.3
303	ML.....	57.3	16.7	27.0	60.4	61.1	(3.41)	11.6	57.2
304	MLP....	54.5	16.0	32.5	55.3	60.6	(3.57)	18.2	60.7
305	0.....	56.1	17.9	27.6	42.5	60.0	.42	12.2	26.6
306	R.....	56.7	15.3	37.7	47.5	59.8	.58	16.2	40.6
307	RL.....	48.9	18.1	31.2	48.3	56.2	.58	14.9	38.7
308	RLP	49.5	17.9	37.5	49.2	54.2	.50	21.1	45.5
309	RLPK...	51.6	19.1	40.6	53.4	58.0	.42	22.1	46.4
310	0.....	48.1	15.4	27.8	44.4	58.8	(2.50)	10.6	29.4
		Corn	Oats[2]	Soybeans[4]	Wheat[5]	Corn	Oats	Clover	Wheat
401	0.....	35.8	47.8	(1.60)	16.2	43.9	65.5	(2.69)	25.5
402	M.....	40.3	48.3	(1.73)	18.2	66.8	70.5	(2.97)	26.2
403	ML.....	41.3	53.8	(1.74)	17.6	68.8	58.6	(3.06)	27.5
404	MLP....	41.3	48.4	(1.63)	23.7	66.1	54.2	(3.03)	27.8
405	0.....	42.2	48.4	12.3	18.8	49.1	73.9	.05	24.8
406	R.....	39.2	49.7	12.4	21.0	58.8	68.6	.03	26.8
407	RL.....	40.0	42.3	15.0	20.7	61.3	58.6	.04	30.7
408	RLP....	39.0	47.0	14.0	23.8	55.4	58.9	.06	31.8
409	RLPK...	35.2	47.8	13.8	23.0	59.1	52.5	.05	35.8
410	0.....	43.0	48.0	(1.50)	15.0	49.0	72.7	(2.85)	25.7

[1]No soil treatment in 1910. [2]Residues only. [3]No manure or lime. [4]No manure, phosphate, or potassium. [5]No manure. [6]Yields from Plots 5 and 10 interchanged.

TABLE 18.—DIXON FIELD: MAIN ROTATION: GENERAL SUMMARY
FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 6 crops	Oats 5 crops	Wheat[1] 4 crops	Clover 3 crops
1	0	25.2	62.0	21.3	(1.93)
2	M	44.8	68.0	22.2	(2.82)
3	ML	47.6	67.4	23.7	(3.00)
4	MLP	50.5	69.6	28.4	(3.12)
5	0	33.5	69.1	24.2	.55
6	R	42.2	68.7	28.0	.67
7	RL	43.3	65.3	27.4	.73
8	RLP	46.0	68.2	31.9	.91
9	RLPK	50.4	65.8	31.9	.82
10	0	31.1	64.3	21.6	(2.39)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 wheat.

TABLE 19.—DIXON FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1913	1914				1915			
		Potatoes[1] Series 500	Potatoes[1] Series 500	Alfalfa[2] Series 600	Alfalfa[2] Series 700	Alfalfa[2] Series 800	Barley hay[1] Series 500	Potatoes Series 600	Alfalfa[2] Series 700	Alfalfa[2] Series 800
		Bushels of potatoes and tons of hay per acre								
1 N	K	109.2	87.0	6.82	5.63	5.39	.94	95.5	4.91	4.64
1 S	0							110.3	4.68	4.52
2 N	MK	124.8	120.2	6.30	5.39	5.45	1.71	177.2	4.71	4.76
2 S	M							151.2	4.70	4.50
3 N	MLK	127.9	106.3	6.33	5.91	5.40	1.70	162.5	4.81	4.62
3 S	ML							130.0	5.06	4.56
4 N	MLPK	134.7	119.1	6.09	5.39	6.08	1.51	147.3	4.89	5.09
4 S	MLP							96.0	4.77	4.72

Plot No.	Soil treatment applied	1916				1917				Average
		Alfalfa[1] Series 500	Potatoes Series 500	Alfalfa[2] Series 700	Alfalfa[2] Series 800	Alfalfa[1] Series 500	Alfalfa Series 600	Potatoes Series 700	Alfalfa Series 800	Annual yield potatoes 3 crops
1 N	K	1.93	20.8	5.00	4.49	1.30	....	66.7	....	61.0
1 S	0	2.61	24.2	4.83	4.26	1.45	....	47.5	....	60.7
2 N	MK	4.21	65.8	4.23	5.14	1.68	....	100.0	....	114.3
2 S	M	4.50	75.0	4.95	4.52	1.70	....	76.7	....	101.0
3 N	MLK	4.02	60.0	5.48	4.47	1.94	....	102.5	....	108.3
3 S	ML	4.37	70.8	5.00	4.22	1.99	....	81.7	....	94.2
4 N	MLPK	4.00	62.5	4.83	4.45	2.15	....	95.0	....	101.6
4 S	MLP	4.28	65.0	4.21	3.49	2.15	....	100.8	....	87.3

GENERAL NOTES.—On Series 500, 600, 700, and 800, potatoes and alfalfa are grown in rotation, potatoes being grown for two years on the same series, while alfalfa is grown six years. Limestone is used at the rate of 4 tons per acre before seeding alfalfa. Rock phosphate at the rate of 2 tons per acre is applied with 15 tons of manure for the first crop of potatoes; the manure application is repeated for the second potato crop. Potassium is supplied in 200 pounds of potassium sulfate for the potatoes.

[1]No potassium. [2]No manure or potassium.

TABLE 20.—DUBOIS FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil[1] treatment applied	1902 Corn	1903 Oats	1904 Wheat	1905 Clover	1906 Corn	1907 Oats	1908 Wheat	1909 Soybeans	1910 Corn	1911 Oats	1912 Clover	1913 Wheat	1914 Corn	1915 Oats	1916 Clover	1917 Wheat
		Bushels or (tons) per acre															
		Land Not Tile-drained															
101	0.....	6.4	9.4	6.3	(1.25)	30.3	18.8	.8	3.5	25.8	13.1	(.46)	7.7	1.0	18.8	(.62)	4.0
102	L.....	6.7	16.2	6.5	(1.57)	35.2	28.8	8.0	6.7	26.2	24.1	(.40)	8.7	1.4	35.3	(.47)	18.0
103	RL.....	5.9	18.1	11.0	(1.78)	38.0	38.1	8.5	7.2	33.6	31.9	.92	14.7	3.0	46.2	.67	24.3
104	LP.....	13.4	25.9	25.0	(2.42)	38.7	43.8	17.8	8.5	17.6	40.9	(1.02)	21.0	2.6	52.5	(.72)	34.2
105	LK.....	11.6	27.5	16.2	(2.22)	48.8	37.2	14.8	9.3	65.6	29.1	(.81)	16.8	1.4	46.2	(.54)	29.3
106	LRP.....	9.3	25.0	32.7	(2.30)	32.3	46.6	19.8	8.2	30.0	35.9	2.42	29.7	.6	47.8	1.33	40.0
107	LRK.....	6.8	23.8	20.2	(2.34)	43.6	43.8	16.5	7.8	67.6	29.1	3.92	21.0	.6	50.3	.83	31.8
108	LPK.....	12.4	30.0	27.5	(2.86)	48.9	50.0	20.8	9.5	73.2	35.3	(1.34)	30.2	1.0	54.7	(1.21)	45.2
109	LRPK...	10.4	29.1	33.3	(2.83)	46.3	46.6	19.7	7.8	73.2	38.8	3.00	30.2	1.0	50.0	1.17	44.0
110	RPK.....	2.0	25.6	27.3	(2.59)	39.9	36.9	10.0	6.3	66.8	26.6	1.67	10.7	.6	33.8	2.50	34.2
		Land Tile-drained															
111	0.....	1.4	17.2	3.3	(1.29)	32.5	13.1	4.3	3.3	27.4	12.2	(.40)	6.7	.6	18.8	(.48)	11.5
112	L.....	3.3	17.2	11.5	(1.72)	33.6	23.8	11.0	6.2	29.0	19.4	(.66)	16.5	1.8	37.2	(.68)	24.5
113	LR.....	2.7	20.6	9.2	(1.79)	31.7	30.0	14.5	6.7	36.6	27.2	1.83	21.5	3.2	46.6	.83	29.7
114	LP.....	6.5	27.5	28.3	(2.27)	29.7	31.9	19.2	7.2	22.2	30.9	(.71)	22.8	1.6	54.1	(.86)	35.8
115	LK.....	4.9	27.2	14.7	(2.16)	47.5	46.3	16.2	7.8	64.2	26.6	(.85)	21.8	1.6	48.8	(.63)	17.0
116	LRP.....	8.0	33.8	31.2	(2.44)	30.5	45.9	19.5	8.8	39.4	35.6	2.50	37.2	1.2	62.8	2.33	44.7
117	LRK.....	7.3	27.2	23.3	(2.52)	48.3	39.1	18.5	10.2	74.6	32.2	2.75	28.8	2.2	50.3	1.33	38.8
118	LPK.....	14.1	25.6	32.2	(2.95)	55.2	44.4	23.0	10.3	76.4	33.4	(1.31)	30.8	2.2	55.3	(1.22)	42.2
119	LRPK...	10.4	31.9	30.5	(2.89)	51.6	42.2	21.3	11.3	75.8	38.8	2.33	29.5	4.2	37.8	1.83	44.7
120	RPK.....	4.8	33.1	28.2	(2.79)	50.7	35.3	12.0	6.7	65.4	28.1	1.83	24.0	1.8	45.6	2.67	18.3

[1]Commercial nitrogen used in place of residues until 1906.

TABLE 21.—DUBOIS FIELD: GENERAL SUMMARY

Plot No.	Soil treatment applied	Average annual yields—bushels per acre		
		Corn 4 crops	Oats 4 crops	Wheat 4 crops
	Land Not Tile-drained			
101	0	15.9	15.0	4.7
102	L	17.4	26.1	10.3
103	LR	20.1	33.6	14.6
104	LP	18.1	40.8	24.5
105	LK	31.9	35.0	19.3
106	LRP	18.0	38.8	30.6
107	LRK	29.7	36.8	22.4
108	LPK	33.9	42.5	30.9
109	LRPK	32.7	41.1	31.8
110	RPK	27.3	30.7	20.6
	Land Tile-drained			
111	0	15.5	15.3	6.4
112	L	16.9	24.4	15.9
113	LR	18.6	31.1	18.7
114	LP	15.0	36.1	26.5
115	LK	29.6	37.2	17.4
116	LRP	19.8	44.5	33.1
117	LRK	33.1	37.2	27.3
118	LPK	37.0	39.7	32.0
119	LRPK	35.5	37.7	31.5
120	RPK	30.7	35.5	20.6

GENERAL NOTES.—The original rotation of corn, oats, wheat, clover was changed in 1911 to corn, oats, clover, and wheat with legume seeding. Until 1905 the nitrogen was supplied in 800 pounds of dried blood per acre per year; thereafter all crop residues were returned to the land. The phosphorus has been applied in 200 pounds of steamed bone meal and potassium in 100 pounds of potassium sulfate per acre per year.

TABLE 22.—ENFIELD FIELD: CROP YIELDS IN SOIL EXPERIMENTS YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1913 Cowpeas[1]	1914 Wheat[3]	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre				
101	0	(.19)	8.2	23.2	13.3	(.99)
102	M	(.16)	9.6	38.9	16.6	(1.14)
103	ML	(.13)	8.3	45.8	19.4	(1.62)
104	MLP	(.09)	13.2	50.4	17.2	(1.96)
105	0	(.10)	7.0	28.8	9.1	5.0
106	R	....	8.0	32.8	8.3	5.0
107	RL	....	11.4	45.2	14.1	13.5
108	RLP	....	16.2	48.4	14.4	15.6
109	RLPK	....	18.6	44.8	18.3	15.0
110	0	(.22)	13.2	38.5	9.7	(1.22)
		Oats[1]	Soybeans[3]	Wheat[3]	Corn	Oats
201	0	3.1	(.57)	10.1	26.6	20.0
202	M	3.8	(.60)	12.8	37.1	27.5
203	ML	4.2	(.77)	13.7	49.3	35.3
204	MLP	4.4	(.86)	23.6	53.6	37.5
205	0	2.3	4.8	7.8	30.3	22.0
206	R	3.0	4.8	13.8	35.2	20.0
207	RL	4.1	4.8	15.2	50.1	36.2
208	RLP	3.8	4.9	21.1	52.5	40.3
209	RLPK	5.0	4.8	22.0	54.8	44.4
210	0	7.8	(.76)	20.1	42.0	25.2
		Corn[2]	Oats	Soybeans	Wheat	Corn
301	0	19.0	2.8	....	.9	13.6
302	M	19.6	3.0	(.07)	2.0	14.4
303	ML	26.5	3.3	(.19)	8.4	44.2
304	MLP	30.9	3.4	(.09)	11.0	46.8
305	0	21.4	1.1	....	1.8	20.3
306	R	23.7	1.3	....	2.0	26.3
307	RL	29.3	1.6	....	5.7	69.8
308	RLP	26.2	1.1	....	15.8	69.6
309	RLPK	21.8	1.3	....	11.7	74.0
310	0	17.3	.8	....	3.4	36.9
		Wheat[3]	Corn	Oats	Clover	Wheat
401	0	13.0	24.3	24.7	(.52)	8.3
402	M	5.4	28.5	22.5	(.35)	6.2
403	ML	6.5	32.6	33.3	(1.66)	28.2
404	MLP	5.7	32.4	30.9	(1.43)	23.2
405	0	3.7	19.3	20.3	0.00	4.2
406	R	7.1	11.1	24.4	.33	8.2
407	RL	7.2	14.4	28.6	1.58	23.2
408	RLP	9.8	14.7	33.4	1.75	32.1
409	RLPK	14.8	20.5	36.4	1.42	31.3
410	0	7.1	19.8	30.8	(.49)	5.0

[1]No manure or residues. [2]No residues. [3]No manure.

TABLE 24.—EWING FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910 Wheat[1]	1911 Corn	1912 Oats	1913 Clover	1914 Wheat	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre							
101	0.....	10.4	16.2	12.0	(.20)	1.7	24.1	5.0	(.51)
102	M.....	14.2	26.8	19.1	(.24)	3.4	38.1	9.4	(.61)
103	ML.....	9.9	27.5	28.3	(.40)	16.2	60.7	19.7	(1.00)
104	MLP....	8.0	30.2	34.4	(.81)	22.5	57.4	21.9	(1.26)
105	0.....	6.8	12.7	14.4	0	.9	17.7	3.8	2.0
106	R.....	8.6	13.2	16.4	0	.8	15.0	4.8	1.8
107	RL.....	8.5	23.0	30.8	.50	12.8	46.7	11.2	9.6
108	RLP....	10.7	20.8	33.4	1.08	17.6	42.5	14.2	10.7
109	RLPK...	17.9	26.0	37.2	.75	25.8	56.4	22.5	12.6
110	0.....	9.7	15.8	11.4	(.31)	1.2	23.4	4.7	(.66)
		Cow-peas[1]	Wheat[2]	Corn	Oats	Soy-beans	Wheat	Corn	Oats[3]
201	0.....	(.89)	10.7	24.7	1.7	(.27)	5.3	21.4	18.3
202	M.....	(.97)	12.8	39.8	3.9	(.23)	8.2	40.1	25.2
203	ML.....	(1.05)	17.3	52.1	7.3	(.47)	18.1	57.0	37.0
204	MLP....	(1.19)	23.8	50.7	6.9	(.53)	23.6	58.6	40.9
205	0.....	(1.02)	11.9	30.7	.6	2.0[5]	4.9	24.3	17.5
206	R.....	...	9.9	33.1	2.5	2.3	4.9	19.6	18.8
207	RL.....	...	20.5	48.3	8.4	4.0	19.1	51.5	34.7
208	RLP....	...	23.7	45.0	9.2	4.0	17.7	51.6	36.6
209	RLPK...	...	28.1	51.6	12.5	4.2	27.8	64.0	47.0
210	0.....	(.87)	12.0	31.7	3.3	(.32)[5]	4.2	31.1	18.1
		Oats[1]	Cow-peas[2]	Wheat[2]	Corn	Oats	Soy-beans	Wheat	Corn
301	0.....	37.1	(.25)	1.8	6.0	3.0	2.0	.3	6.4
302	M.....	43.1	(.23)	2.3	10.3	3.4	1.8	.4	24.4
303	ML.....	42.6	(.34)	4.9	20.8	5.6	6.6	5.6	54.1
304	MLP....	45.3	(.38)	3.0	23.9	6.4	7.7	6.8	58.9
305	0.....	32.8	1.6	.8	5.6	1.4	1.7	.2	12.6
306	R.....	37.8	1.2	.8	6.2	3.3	2.5	.2	17.1
307	RL.....	39.2	2.4	4.3	22.5	5.9	7.5	7.4	35.7
308	RLP....	35.6	3.2	3.2	21.8	5.3	6.4	4.8	45.9
309	RLPK...	36.7	4.0	4.3	26.8	6.6	8.2	6.9	63.8
310	0.....	44.2	(.25)[4]	2.8	6.1	1.4	3.8	.5	13.1
		Corn[1]	Oats[2]	Cow-peas[2]	Wheat[2]	Corn	Oats	Clover	Oats[2]
401	0.....	30.8	17.7	(.76)	.8	4.3	9.7	(.35)	15.5
402	M.....	35.1	29.2	(.66)	.8	4.5	16.9	(.46)	15.3
403	ML.....	36.4	31.3	(1.26)	11.8	7.6	37.5	(1.66)	39.4
404	MLP....	40.4	32.0	(1.38)	11.3	6.3	49.4	(1.94)	47.3
405	0.....	37.3	23.9	.90	.9	3.5	12.3	00	22.5
406	R.....	38.4	21.8	...	1.1	2.7	13.8	00	27.3
407	RL.....	51.7	42.7	...	16.0	3.1	43.9	1.25	58.1
408	RLP....	50.7	36.7	...	14.9	3.6	44.5	1.58	62.8
409	RLPK...	47.6	42.8	...	27.2	6.4	45.3	1.58	65.5
410	0.....	43.6	23.9	(0)	2.5	2.7	16.2	(.47)	32.3

[1]No manure or residues. [2]No manure. [3]Wheat winter-killed. [4]Estimated.
[5]Yields from Plots 5 and 10 interchanged.

TABLE 23.—ENFIELD FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yield —bushels per acre		
		Corn 4 crops	Oats 4 crops	Wheat[1] 4 crops
1	0	21.9	15.2	6.9
2	M	29.7	17.4	7.7
3	ML	43.0	22.8	14.7
4	MLP	45.8	22.2	17.8
5	0	24.7	13.1	5.2
6	R	26.3	13.5	8.0
7	RL	44.9	20.1	13.9
8	RLP	46.3	22.3	21.3
9	RLPK	48.5	25.1	20.9
10	0	34.3	16.6	10.4

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 and 1915 wheat.

TABLE 25.—EWING FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 7 crops	Oats 7 crops	Wheat 3 crops	Clover 2 crops	Soybeans 3 crops
1	0	14.7	9.3	2.4	(.28)	(.33)
2	M	26.3	17.7	4.0	(.35)	(.34)
3	ML	40.0	25.0	13.3	(1.03)	(.71)
4	MLP	40.9	29.6	17.6	(1.38)	(.85)
5	0	15.3	10.4	2.0	.10	1.9
6	R	15.3	12.4	2.0	.00	2.2
7	RL	33.0	27.6	13.1	.89	7.0
8	RLP	33.0	29.4	13.4	1.33	7.0
9	RLPK	42.1	33.8	20.2	1.17	8.3
10	0	17.7	12.5	2.0	(.39)	(.45)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

TABLE 26.—FAIRFIELD FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1905 Corn	1906 Soybeans	1907 Wheat	1908 Clover	1909 Corn	1910 Soybeans	1911 Wheat	1912 Clover	1913 Corn	1914 Soybeans	1915 Wheat	1916 Soybeans[4]	1917 Corn
		Bushels or (tons) per acre												
		Land Tile-drained												
103	RLP	26.5	1.0	15.1	(1.02)	31.2	20.1	13.2	.35	2.9	12.4	7.9	19.2	43.6
106	RLP	43.5	1.3	15.6	(1.02)	33.7	21.6	16.1	.35	1.6	12.4	7.2	19.5	51.1
109	R	51.3	1.4	11.8	(.90)	48.5	18.5	4.8	.15	11.4	10.4	0.0	13.7	65.3
110	M	57.0	1.4	3.8	(.65)	39.4	(1.54)	5.3	(.70)	7.1	(.77)	0.0	(0.0)	41.8
113	MLP	57.0	0.0	19.8	(1.55)	39.0	(2.14)	25.6	(2.19)	2.6	(1.18)	5.4	(1.60)	55.0
116	MLP	67.5	2.9	17.9	(1.22)	41.6	(2.06)	26.3	(2.19)	5.0	(1.21)	4.7	(1.60)	62.9
		Land Not Tile-drained												
123	RLP	23.6	.8	13.1	.90	37.9	20.8	11.1	.39	3.3	13.8	2.7	15.6	44.5
126	RLP	28.4	1.8	8.4	1.32	25.3	19.5	4.2	.39	1.3	14.4	.6	13.6	24.7
129	R	13.1	0.0	0.0	.67	17.7	10.3	.7	.00	1.8	6.4	.0	2.3	7.5
130	M	47.0	0.0	1.5[1]	.63	18.7	(1.02)	.7	(.34)	3.7	(.51)	0.0	(0.0)	13.0
133	MLP	59.6	.5	12.0	1.80	30.0	(1.74)	10.6	(1.72)	1.1	(1.07)	2.7	(1.33)	35.9
136	MLP	59.1	.8	14.3	1.55	36.9	(1.84)	18.3	(1.72)	2.7	(.98)	.6	(1.33)	51.6
		Soybeans	Wheat	Clover[2]	Corn	Cowpeas	Wheat	Clover	Corn	Soybeans	Wheat	Soybeans	Corn	Soybeans
		Land Tile-drained												
203	RLP	3.0	1.3	(.47)	22.4	3.9	29.4	0.0	40.7	13.9	14.6	17.2	11.3	12.6
206	RLP	2.4	1.3	(.52)	22.2	3.9	30.0	0.0	38.1	12.8	14.5	16.9	10.7	12.9
209	R	3.3	.3	(.20)	28.5	8.3	20.2	0.0	22.3	9.8	8.8	11.8	20.7	11.6
210	M	1.6	1.2	(.51)	37.9	8.4	20.9	(.41)[3]	22.3	(.92)	12.3	(1.01)	16.9	(1.13)
213	MLP	1.8	2.8	(.90)	39.0	6.6	38.1	(.99)	60.6	(1.12)	23.2	(1.88)	11.5	(1.35)
216	MLP	1.8	2.0	(.78)	35.3	6.8	36.8	(.99)	54.5	(.99)	20.0	(1.82)	7.8	(1.34)
		Land Not Tile-drained												
223	RLP	2.7	2.8	(.80)	30.9	4.6	31.6	0.0	29.7	12.3	15.3	12.0	14.0	10.7
226	RLP	2.9	1.2	(.76)	21.2	4.9	28.6	0.0	7.4	11.3	12.1	13.5	12.1	9.1
229	R	2.2	0.0	(.61)	15.6	3.8	7.2	0.0	1.6	7.8	.6	5.9	14.0	8.8
230	M	1.6	1.6	(.66)	30.2	6.4	16.4	(.39)[3]	4.0	(.71)	2.7	(.72)	11.9	(.70)
233	MLP	.8	1.1	(.85)	38.3	7.7	35.2	(.85)	22.0	(1.16)	17.2	(2.01)	18.2	(1.40)
236	MLP	2.9	5.3	(1.20)	40.3	7.1	36.7	(.85)	23.8	(1.22)	19.3	(2.04)	16.9	(1.40)

TABLE 26.—FAIRFIELD, *Concluded*

Plot No.	Soil treatment applied	1905 Corn	1906 Clover	1907 Corn	1908 Cow-peas	1909 Oats	1910 Clover	1911 Corn	1912 Soy-beans	1913 Wheat	1914 Soy-beans	1915 Corn	1916 Soy-beans	1917 Wheat
		Bushels or (tons) per acre												
		Land Tile-drained												
303	RLP	....	(.09)	40.8	5.7	37.5	1.45	34.3	(1.58)	14.3	15.4	46.8	7.6	27.2
306	RLP	....	(.15)	37.2	9.6	34.2	1.45	34.9	(1.80)	14.3	19.2	41.3	7.3	20.3
309	R	....	(.10)	32.1	4.7	25.8	0.0	25.9	(.53)	.6	7.3	24.9	6.3	5.5
310	M	....	(.25)	35.3	5.4	30.8	(.76)[3]	30.5	(1.29)	3.1	(.87)	26.6	(.90)	14.0
313	MLP	....	(.40)	50.5	10.3	30.2	(3.95)	39.8	(1.66)	19.8	(1.48)	44.6	(1.15)	30.2
316	MLP	....	(.48)	48.5	12.7	44.4	(3.95)	36.6	(2.68)	25.7	(1.62)	49.4	(.88)	34.4
		Land Not Tile-drained												
323	RLP	....	(.49)	39.0	8.4	33.6	1.96	34.0	(1.87)	14.0	13.7	47.1	6.9	30.8
326	RLP	....	(.51)	51.8	9.5	37.8	1.96	39.2	(1.56)	17.0	14.9	51.0	8.4	36.1
329	R	....	(.20)	34.2	5.3	29.9	0.0	24.2	(.97)	2.2	10.0	30.1	7.4	13.0
330	M	....	(.39)	42.1	7.4	34.2	(1.06)[3]	31.8	(.99)	3.2	(1.11)	36.5	(.82)	17.3
333	MLP	....	(.40)	52.7	9.0	32.5	(3.70)	34.0	(2.15)	15.0	(1.64)	46.2	(1.12)	33.6
336	MLP	....	(.56)	52.0	9.7	47.5	(3.70)	28.8	(2.04)	16.6	(1.61)	46.0	(.92)	27.7
			Corn	Cow-peas	Wheat	Cow-peas	Corn	Soy-beans	Wheat	Soy-beans	Corn[5]	Soy-beans	Wheat	Soy-beans
		Land Tile-drained												
403	RLP	....	34.8	3.5	16.0	5.0	55.1	10.6	12.5	9.9	...	18.0	14.9	9.1
406	RLP	....	38.2	3.1	14.0	7.2	60.9	12.3	13.2	10.5	...	20.1	10.3	8.9
409	R	....	32.6	3.2	5.3	7.2	44.4	11.5	1.7	9.9	...	7.6	0.0	6.2
410	M	....	41.0	3.4	10.6	6.9	43.8	10.2	2.1	(.65)	...	(.77)	0.3	(.95)
413	MLP	....	50.8	8.2	21.8	6.7	66.9	14.7	13.3	(.91)	...	(1.83)	30.7	(1.28)
416	MLP	....	49.2	7.7	21.3	6.5	64.9	15.2	13.1	(.86)	...	(1.85)	27.1	(1.49)
		Land Not Tile-drained												
423	RLP	....	47.2	8.0	14.9	5.8	60.9	11.7	14.0	13.4	...	13.6	14.8	8.8
426	RLP	....	38.6	2.4	10.0	4.8	57.7	13.4	9.3	11.0	...	13.8	11.1	8.7
429	R	....	33.0	1.8	2.8	6.5	37.6	9.1	1.0	7.5	...	4.5	0.0	4.9
430	M	....	40.3	2.2	1.4	5.4	47.5	8.8	1.1	(.55)	...	(.62)	0.0	(.83)
433	MLP	....	48.8	6.6	15.1	4.7	63.6	10.6	13.6	(.82)	...	(1.90)	26.9	(1.27)
436	MLP	....	53.0	4.3	16.3	6.0	65.1	15.5	10.4	(.90)	...	(1.87)	23.9	(1.38)

[1]Estimated. [2]Mostly red top. [3]Mostly weeds and foul grass. [4]Sweet clover on manure plots. [5]Crop failure.

TABLE 27.—FAIRFIELD FIELD: GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 13 crops	Wheat 11 crops	Clover 7 crops[1]	Soybeans or cowpeas 19 crops[2]	Oats 1 crop
		Land Tile-drained				
3	RLP	30.0	15.1	.56	10.7	37.5
6	RLP	31.8	14.2	.58	11.6	34.2
9	R	20.9[3]	5.4	.22	8.3	25.8
10	M	30.7	6.7	(.47)	(.81)	30.8
3	MLP	39.8	20.9	(1.65)	(1.17)	32.2
6	MLP	40.2	20.8	(1.60)	(1.23)	44.4
		Land Not Tile-drained				
3	RLP	31.9	15.0	.75	10.6	33.6
6	RPL	27.6	12.6	.82	9.7	37.8
9	R	17.7	2.5	.25	6.0	29.9
10	M	25.1	4.2	(.50)	(.65)	34.2
3	MLP	34.6	16.6	(1.52)	(1.13)	32.5
6	MLP	36.7	17.2	(1.57)	(1.16)	47.5

GENERAL NOTES.—The Fairfield field is operated primarily for the investigation of crop problems. There are, however, standard plots on all series on which manures, phosphate, and limestone are applied, as described in the introduction. The rotation consists of corn, cowpeas or soybeans, wheat, and clover. Cowpeas or soybeans are substituted in case of clover failure, and oats are substituted when wheat fails.

[1]Six crops in residue system.

[2]Eighteen crops in manure system.

[3]Corn yields from Plot 129 are substituted for those from abnormal Plot 109 in making this average.

TABLE 28.—GALESBURG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1904 Corn[1]	1905 Corn[2]	1906 Oats[3]	1907 Wheat[3]	1908 Clover[2]	1909 Timothy[3]	1910 Corn	1911 Corn	1912 Oats	1913 Clover	1914 Wheat	1915 Soybeans	1916 Corn	1917 Corn
		Bushels or (tons) per acre													
101	L.....	63.8	52.5	53.8	34.0	(2.71)	(2.04)	59.8	66.5	53.3	(2.64)	28.6	(1.12)	29.5	33.7
102	RL.....	67.3	49.8	53.6	41.4	.96	(3.83)	72.6	75.1	56.9	...	33.2	14.9	38.2	52.1
103	ML.....	64.7	48.1	50.3	31.6	(2.59)	(1.83)	77.6	81.0	60.0	(3.18)	36.2	(1.20)	46.4	59.7
104	CvML.....	65.3	46.5	46.7	32.8	(2.61)	(1.70)	77.9	78.9	70.2	(3.05)	34.3	(1.25)	51.2	58.9
105	L.....	74.7	54.9	52.3	35.1	(2.80)	(2.05)	66.2	67.4	60.8	(2.80)	31.0	(1.05)	32.4	45.3
106	LP.....	78.2	66.1	53.9	41.9	(3.18)	(2.58)	72.4	79.4	68.6	(3.54)	46.4	16.2	40.7	53.5
107	RLP.....	75.9	63.1	55.0	41.3	.67	(4.92)	78.0	83.8	65.2	...	44.9	16.2	42.0	55.8
108	MLP.....	72.6	61.1	54.2	37.9	(3.18)	(2.36)	74.6	79.8	77.3	(3.19)	37.5	(1.40)	44.9	62.7
109	CvMLP.....	74.1	60.0	54.2	40.0	(3.15)	(2.33)	74.0	79.1	74.4	(3.75)	39.2	(1.50)	45.5	57.9
110	L.....	72.4	58.8	50.5	32.7	(2.65)	(1.74)	61.5	59.2	54.5	...	30.8	11.9	24.8	33.9
111	LPK.....	81.2	72.3	53.9	36.6	(3.21)	(2.42)	74.5	81.1	70.9	(3.88)	41.0	14.8	41.9	56.5
112	RLPK.....	82.3	71.0	59.4	41.1	.58	(5.00)	81.9	83.7	59.5	...	41.7	16.6	49.1	60.2
113	MLPK.....	77.1	72.2	52.8	36.1	(3.45)	(2.49)	77.6	82.4	74.4	(3.81)	41.5	(1.37)	45.9	58.4
114	CvMLPK...	89.4	69.9	54.5	38.7	(3.36)	(2.55)	75.9	85.0	70.0	(4.02)	40.8	(1.25)	48.2	65.0
115	L.....	81.2	68.1	62.8	36.8	(2.99)	(2.19)	59.4	67.3	53.0	(2.59)	23.3	(1.07)	26.9	28.8
116	R.....	77.1	61.8	57.3	38.2	1.17	(5.33)	70.6	68.9	52.0	...	28.8	15.4	34.7	43.2
117	RP.....	79.4	64.2	60.0	36.2	1.25	(5.50)	75.0	77.5	66.1	...	49.8	15.3	46.0	51.4
118	RPK.....	82.3	70.8	52.0	40.9	1.38	(4.75)	78.3	78.4	68.1	...	53.3	17.3	58.7	54.0
119	RLNPK....	87.1	76.3	66.2	46.0	1.08	(5.00)	74.8	79.3	67.3	...	49.6	17.9	66.7	72.5
120	0.....	82.9	65.1	65.3	45.8	(1.21)	(2.82)	72.7	67.4	70.2	(2.58)	40.4	(1.13)[3]	47.7	54.6

[1]No manure, cover crop or residues. [2]No manure. [3]Estimated.

TABLE 28.—GALESBURG FIELD, *Continued*

Plot No.	Soil treatment applied	1904 Oats[1]	1905 Wheat[1]	1906 Clover[1]	1907 Timothy[1]	1908 Corn	1909 Corn	1910 Oats	1911 Clover	1912 Wheat	1913 Clover	1914 Corn	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre													
201	L.....	57.5	40.5	(.72)	(2.30)	79.8	54.1	48.0	(1.39)	17.5	(2.27)	25.1	38.8	42.5	(1.32)
202	RL.....	55.0	40.0	(.63)	(1.31)	78.8	51.9	43.3	...	21.1	...	37.6	49.2	42.2	17.0
203	ML.....	52.5	38.5	(.57)	(2.55)	101.3	65.6	50.6	(2.64)	21.7	(2.28)	42.8	58.1	45.6	(2.26)
204	CvML.....	55.0	40.2	(.63)	(2.73)	102.7	66.8	53.0	(2.32)	19.6	(2.39)	40.6	56.7	35.6	(1.89)
205	L.....	67.5	42.2	(1.22)	(2.84)	86.3	54.4	44.4	(2.29)	18.2	(2.54)	30.6	48.8	44.7	(1.82)
206	LP.....	62.5	41.3	(1.36)	(3.27)	99.6	59.1	55.5	(2.42)	27.3	(2.83)	36.5	55.4	43.1	14.8
207	RLP.....	57.5	42.2	(.90)	(1.79)	105.6	49.4	48.6	...	27.3	...	43.1	56.7	42.2	18.0
208	MLP.....	60.0	40.0	(.91)	(3.18)	106.6	69.8	58.6	(2.30)	27.3	(2.87)	41.6	67.7	30.8	(2.03)
209	CvMLP.....	50.0	39.0	(.91)	(3.16)	105.8	75.7	60.3	(2.03)	27.8	(2.75)	38.5	68.9	37.2	(1.80)
210	L.....	57.5	37.5	(.69)	(2.46)	84.5	57.8	42.3	(1.14)	12.2	...	29.0	40.1	41.1	14.0
211	LPK.....	55.0	38.7	(1.31)	(3.38)	95.7	67.0	55.3	(2.01)	28.2	(2.63)	35.8	60.7	43.1	16.1
212	RLPK.....	65.0	39.3	(1.40)	(2.15)	103.3	57.5	53.8	...	28.3	...	41.1	62.4	44.2	16.4
213	MLPK.....	65.0	41.5	(1.79)	(3.62)	98.1	69.8	58.3	(2.55)	25.9	(2.81)	30.3	64.2	33.1	(2.11)
214	CvMLPK...	62.5	40.7	(1.51)	(3.48)	102.8	73.2	62.8	(2.46)	25.3	(3.02)	37.5	64.9	32.8	(1.93)
215	L.....	60.0	35.5	(.83)	(2.33)	84.1	58.2	41.6	(.98)	8.8	(2.27)	25.6	44.9	40.2	(1.58)
216	R.....	72.5	37.0	(.82)	(1.37)	87.3	54.8	38.6	...	11.8	...	28.7	46.5	38.1	8.1
217	RP.....	57.5	38.7	(.85)	(1.44)	98.6	49.6	43.4	...	22.1	...	38.9	53.5	43.6	16.8
218	RPK.....	50.0	40.7	(1.51)	(2.17)	99.0	43.0	46.3	...	28.3	...	36.4	64.0	45.2	14.8
219	RLNPK....	57.5	37.7	(1.21)	(1.98)	109.6	47.2	57.6	...	27.3	...	39.8	65.7	38.1	18.6
220	0.....	55.0	39.5	(.71)	(2.49)	88.3	49.5	38.1	(1.00)	15.6	(2.24)	18.9	38.6	28.3	(1.51)

TABLE 28.—GALESBURG FIELD, *Concluded*

Plot No.	Soil treatment applied	1904 Timothy[1]	1905 Timothy[1]	1906 Corn[1]	1907 Corn[2]	1908 Oats[2]	1909 Wheat[2]	1910 Wheat	1911 Clover	1912 Corn	1913 Corn	1914 Oats	1915 Soybeans	1916 Barley	1917 Soybeans
		Bushels or (tons) per acre													
301	L.....	(1.36)	(1.54)	66.8	75.9	28.6	31.7	16.2	(2.17)	70.8	36.6	29.8	(1.36)	22.5	(.84)
302	RL.....	(1.38)	(1.59)	68.6	77.7	26.6	33.8	19.4	...	89.6	37.2	40.8	17.3	27.1	5.8
303	ML.....	(1.30)	(1.92)	72.0	80.3	28.3	36.3	19.6	(2.57)	104.3	40.9	34.1	(1.49)	25.5	(1.29)
304	CvML.....	(1.38)	(2.02)	75.6	83.1	26.1	40.4	22.3	(2.03)	103.3	42.9	35.2	(1.58)	25.6	(1.42)
305	L.....	(1.20)	(1.75)	70.5	78.3	22.5	36.6	21.2	(1.83)	92.1	38.9	36.1	(1.30)	21.7	(.90)
306	LP.....	(1.21)	(1.65)	69.7	84.4	32.7	40.6	22.2	(2.64)	98.2	42.9	37.6	17.7	24.2	7.9
307	RLP.....	(1.16)	(1.55)	74.0	84.1	27.5	41.2	24.1	...	103.2	44.5	50.3	19.2	29.8	8.9
308	MLP.....	(1.25)	(1.63)	73.9	86.1	33.9	39.7	21.6	(3.25)	107.9	45.3	35.5	(1.67)	26.8	(1.49)
309	CvMLP.....	(1.55)	(2.03)	83.9	87.8	28.9	44.9	24.9	(3.13)	106.0	49.0	27.3	(1.68)	33.0	(1.52)
310	L.....	(1.75)	(2.25)	84.3	85.6	31.6	39.8	22.4	(2.74)	93.0	45.5	32.2	18.8	23.0	6.2
311	LPK.....	(2.10)	(2.41)	86.9	87.8	32.3	44.3	24.5	(3.59)	101.9	39.1	22.8	23.3	22.7	7.9
312	RLPK.....	(1.55)	(1.91)	75.8	81.2	25.9	41.8	23.2	...	98.4	44.5	37.3	21.2	38.4	9.2
313	MLPK.....	(1.16)	(1.53)	68.4	77.9	31.3	35.8	23.0	(3.28)	108.8	44.3	28.4	(1.98)	29.7	(1.55)
314	CvMLPK...	(1.50)	(1.52)	70.6	81.7	27.7	42.0	23.1	(3.57)	106.9	46.8	21.4	(1.82)	35.1	(1.68)
315	L.....	(1.90)	(1.97)	74.1	85.1	30.6	36.8	21.6	(2.47)	90.6	31.1	26.9	(1.48)	25.5	(1.13)
316	R.....	(1.82)	(1.82)	67.7	80.6	26.7	34.2	22.9	...	82.1	35.0	37.2	17.8	33.3	8.6
317	RP.....	(1.95)	(2.00)	59.1	83.3	31.1	44.9	27.0	...	99.2	38.9	46.2	19.2	31.5	5.5
318	RPK.....	(2.65)	(2.18)	66.8	73.6	25.8	43.3	29.1	...	113.2	42.8	55.5	20.2	32.6	4.9
319	RLNPK....	(4.15)	(2.37)	71.2	84.7	32.7	43.8	24.9	...	104.1	37.5	43.1	25.2	39.1	7.9
320	0.....	(1.46)	(1.56)	59.6	72.8	31.3	28.5	15.8	(1.46)	79.1	27.8	25.0	(1.33)[3]	24.9	(.60)

[1]No manure, cover crop or residues. [2]No manure. [3]Estimated.

TABLE 29.—GALESBURG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 10 crops	Oats 4 crops	Wheat 3 crops	Clover 4 crops	Soy-beans 4 crops	Barley 1 crop
1	L	49.1	43.4	20.8	(2.11)	(1.16)	22.5
2	RL	58.2	45.8	24.6	....	13.8	27.1
3	ML	67.8	47.6	25.8	(2.67)	(1.56)	25.5
4	CvML	68.0	48.5	25.4	(2.45)	(1.54)	25.6
5	L	56.2	46.5	23.5	(2.37)	(1.27)	21.7
6	LP	63.8	51.2	32.0	(2.86)	14.1	24.2
7	RLP	66.2	51.6	32.1	....	15.6	29.8
8	MLP	65.0	50.6	28.8	(2.90)	(1.65)	26.8
9	CvMLP	70.0	49.8	30.6	(2.91)	(1.63)	33.0
10	L	52.9	42.5	21.8	(1.94)[1]	12.7	23.0
11	LPK	65.4	48.0	31.2	(3.03)	15.5	22.7
12	RLPK	68.2	48.7	31.1	....	15.9	38.4
13	MLPK	68.0	48.6	30.1	(3.11)	(1.75)	29.7
14	CvMLPK	70.6	46.8	29.7	(3.27)	(1.67)	35.1
15	L	51.7	40.4	17.9	(2.08)	(1.31)	25.5
16	R	55.2	41.5	21.2	....	12.5	33.3
17	RP	62.9	49.8	33.0	....	14.2	31.5
18	RPK	66.8	53.8	36.9	....	14.3	32.6
19	RLNPK	69.7	51.5	33.9	....	17.4	39.1
20	0	54.5	40.4	23.9	(1.82)	(1.14)	24.9

GENERAL NOTES.—The original rotation was corn, corn, oats, wheat, clover, and timothy. In 1909 this was changed to corn, corn, oats, clover, wheat, and clover. The phosphorus has been applied in rock phosphate at the rate of 500 pounds per acre per year. At the beginning, an application of 1,300 pounds of limestone was made per acre; no more limestone was applied until 1913, when an application of 4 tons was made. The potassium is supplied in 100 pounds of potassium sulfate per acre. On Plot 19, nitrogen is applied in 200 pounds of dried blood per acre per year. The manure and residues are supplied as described in the introduction. Some legume cover crops have been grown in the corn.

[1]Only two crops.

TABLE 30.—HARTSBURG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BLACK CLAY LOAM PRAIRIE; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912 Oats[1]	1913 Clover[2]	1914 Wheat[2]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre					
101	0	39.5	(1.88)	35.9	52.9	62.7	(1.90)
102	M	30.5	(1.84)	27.9	51.2	59.4	(2.57)
103	ML	43.9	(2.03)	36.1	61.9	74.5	(2.51)
104	MLP	37.2	(1.90)	33.8	64.1	71.2	(2.63)
105	0	35.0	2.67	30.2	45.0	53.3	1.75
106	R	33.0	2.33	30.8	52.1	54.8	2.25
107	RL	35.3	2.67	32.1	60.5	58.3	2.00
108	RLP	37.8	2.50	36.0	63.9	60.6	2.50
109	RLPK	33.0	2.25	36.2	62.7	63.0	2.50
110	0	31.2	(1.95)	33.7	49.3	56.2	(1.86)
		Corn[1]	Oats[2]	Soy-beans[2]	Wheat[2]	Corn	Oats
201	0	32.1	25.5	(1.51)	39.9	32.2	45.6
202	M	33.4	21.9	(1.90)	41.5	36.0	52.2
203	ML	45.3	25.6	(1.88)	42.8	45.1	61.1
204	MLP	38.4	24.1	(1.80)	45.1	41.9	56.6
205	0	35.0	22.8	22.1	40.7	30.7	42.8
206	R	36.6	20.5	22.6	40.9	48.2	86.9
207	RL	37.0	19.5	21.2	34.3	49.9	78.4
208	RLP	40.5	22.3	21.2	39.7	45.2	89.4
209	RLPK	38.3	24.8	20.8	41.7	44.2	90.3
210	0	39.2	22.3	(1.40)	37.8	31.6	43.1
		Wheat[2]	Corn	Oats	Soy-beans	Wheat	Corn
301	0	....	21.1	25.8	(1.43)	14.4	38.2
302	M	....	21.3	30.9	(1.84)	21.8	48.7
303	ML	....	33.1	36.9	(1.96)	29.0	60.7
304	MLP	....	30.0	36.9	(2.23)	34.6	63.7
305	0	....	27.1	33.1	30.8	28.7	43.9
306	R	....	34.2	31.2	28.4	31.5	79.1
307	RL	....	49.5	32.5	30.1	32.7	84.8
308	RLP	....	41.7	36.4	28.2	34.9	85.7
309	RLPK	....	39.5	35.5	28.9	34.5	84.1
310	0	....	26.7	34.5	(2.00)	26.8	49.1
		Soy-beans[1]	Wheat[2]	Corn	Oats	Clover	Wheat
401	0	12.1	26.2	31.3	48.8	(1.40)	19.1
402	M	(.99)	24.8	35.0	58.0	(2.07)	31.7
403	ML	(1.12)	29.9	46.5	63.1	(2.12)	32.7
404	MLP	(1.20)	33.2	39.0	66.2	(2.28)	42.2
405	0	15.0	28.7	33.9	46.9	.67	35.8
406	R	17.5	30.6	41.2	51.6	.50	40.3
407	RL	17.3	28.8	43.0	54.2	.75	34.8
408	RLP	17.4	32.1	45.1	53.3	.83	40.8
409	RLPK	17.6	30.9	45.6	52.0	.67	39.7
410	0	16.1	32.4	38.1	50.2	(2.17)	40.7

[1]Lime only. [2]Yields not taken. [3]No manure.

TABLE 30.—HARTSBURG FIELD, *Concluded*

Plot No.	Soil treatment applied	1913 Alfalfa	1914 Alfalfa	1915 Alfalfa	1916 Alfalfa	1917 Alfalfa
		Tons per acre				
501	0	2.36	4.11	4.67	3.17	3.20
502	M	2.89	4.23	5.20	3.66	3.84
503	ML	3.20	4.51	5.35	3.85	3.65
504	MLP	3.31	4.66	5.58	3.94	4 05
505	0	1.80	3.53	4.53	3.38	3.42
506	0	2.79	4.24	5.17	3.67	3.38
507	L	2.12	3.56	4.72	3.25	3.24
508	LP	2.28	4.04	5.33	3.15	3.98
509	LPK	2.72	4.49	5.52	3.49	4.00
510	0	1.87	3.71	4.46	2.60	3.14
511	M	2.45	3.61	4.52	2.79	2.83
512	ML	2.79	3.76	4.61	2.94	2.92
513	MLP	3.71	4.63	5.03	3.36	3.45
514	MP	3.30	4.73	5.09	3.96	3.87
515	0	1.79	3.92	4.19	2.81	2.39

TABLE 31.—HARTSBURG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 4 crops	Wheat 4 crops[1]	Clover 2 crops	Soybeans 2 crops[1]
1	0	35.1	45.7	27.3	(1.65)	(1.47)
2	M	38.4	50.1	30.7	(2.32)	(1.87)
3	ML	49.5	58.9	35.1	(2.31)	(1.92)
4	MLP	47.7	57.7	38.9	(2.46)	(2.01)
5	0	36.1	44.0	33.9	1.21	26.4
6	R	51.0	56.1	35.9	1.38	25.5
7	RL	57.5	55.9	33.5	1.38	25.7
8	RLP	56.3	59.9	37.9	1.67	24.7
9	RLPK	55.2	60.2	38.0	1.59	24.9
10	0	39.0	46.0	34.8	(2.01)	(1.70)

NOTE.—The rotation and soil treatment are standard, as described in the introduction, with the exception that alfalfa is grown upon a fifth field (containing some extra plots) for five years, after which this field is brought into the regular rotation and alfalfa reseeded on another field.

[1]No manure on 1914 wheat or soybeans, nor on 1915 wheat.

TABLE 32.—JOLIET FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1914 Wheat[1]	1915 Soybeans[2]	1916 Corn	1917 Oats
		Bushels or (tons) per acre			
101	0	16.5	(1.42)	18.1	73.4
102	M	19.3	(1.50)	29.4	80.1
103	ML	20.9	(1.68)	34.0	79.4
104	MLP	21.5	(1.82)	33.4	83.1
105	0	18.2	15.2	18.5	70.2
106	R	19.9	14.0	18.9	73.8
107	RL	20.8	15.8	21.6	73.8
108	RLP	20.2	15.2	25.0	80.5
109	RLPK	22.0	16.3	25.1	70.5
110	0	17.4	15.1	18.6	75.5
		Clover[1]	Wheat[2]	Soybeans[2]	Corn
201	0	(2.00)	9.8	(.55)	7.3
202	M	(2.05)	7.9	(.59)	7.9
203	ML	(1.97)	14.3	(.66)	10.4
204	MLP	(2.02)	20.3	(.63)	14.3
205	0	(1.91)	10.6	8.2	6.0
206	R	.42	15.6	7.9	7.7
207	RL	1.00	20.0	8.9	11.1
208	RLP	.92	24.9	11.5	14.6
209	RLPK	1.83	30.4	15.0	23.4
210	0	1.25	25.2	(1.06)	23.7
		Oats[1]	Soybeans[2]	Wheat[2]	Soybeans[2]
301	0	60.9	10.6	4.1	(1.58)
302	M	60.2	(1.42)	5.2	(1.66)
303	ML	59.8	(1.69)	8.3	(1.67)
304	MLP	59.5	(1.75)	7.9	(1.78)
305	0	50.2	13.9	6.0	9.4
306	R	53.3	13.0	9.9	8.8
307	RL	60.8	13.7	13.2	8.2
308	RLP	59.1	15.1	18.7	11.5
309	RLPK	68.8	15.0	15.2	12.6
310	0	52.5	12.8	7.1	(1.39)
		Corn[1]	Oats[2]	Clover[2]	Wheat[2]
401	0	44.7	72.5	(1.17)	8.2
402	M	46.9	73.0	(1.24)	10.3
403	ML	52.4	70.5	(1.16)	10.9
404	MLP	50.2	75.0	(1.64)	19.6
405	0	42.3	67.7	.33	9.8
406	R	50.6	62.8	.42	8.8
407	RL	53.2	63.4	.50	13.4
408	RLP	51.0	65.0	.50	22.5
409	RLPK	53.1	72.0	.42	24.3
410	0	45.1	63.1	(1.15)	0.0

GENERAL NOTES.—The rotation practiced is wheat, soybeans, corn, oats, clover, and alfalfa. The alfalfa will remain down six years, when it will be changed to one of the other fields. The soil treatment is standard, as described in the introduction.

[1]Lime only. [2]No manure.

TABLE 32.—JOLIET FIELD, *Concluded*

Plot No.	Soil treatment applied	1914 Soybeans[1]	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre			
501	0	(1.24)	28.6	70.9	(1.60)
502	M	(1.40)	36.3	75.9	(1.74)
503	ML	(1.51)	38.3	77.2	(1.84)
504	MLP	(1.28)	47.7	77.7	(1.87)
505	0	12.1	28.5	73.3	10.9
506	R	11.9	32.4	71.1	11.0
507	RL	13.3	28.7	63.9	11.0
508	RLP	11.9	31.2	59.8	13.4
509	RLPK	14.8	43.4	81.4	14.7
510	0	(1.12)	27.1	74.1	(1.50)
		Alfalfa[1]	Alfalfa[3]	Alfalfa[3]	Alfalfa[3]
601	0	....	(1.79)	(1.46)	(.44)
602	M	....	(2.13)	(1.78)	(.47)
603	ML	....	(2.83)	(2.96)	(.81)
604	MLP	....	(3.73)	(4.35)	(1.28)
605	0	....	(2.18)	(2.16)	(.71)
606	R	....	(2.57)	(2.23)	(.74)
607	RL	....	(2.90)	(2.88)	(.97)
608	RLP	....	(3.39)	(4.10)	(1.28)
609	RLPK	....	(3.56)	(4.38)	(1.46)
610	0	....	(1.90)	(1.72)	(.41)

[1]Lime only. [3]No residues or manure.

TABLE 33.—KEWANEE FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; UPPER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1915 Corn[1]	1916 Oats[2]	1917 Clover[5]
		Bushels or (tons) per acre		
101	0	32.6	66.4	(1.67)
102	M	40.5	68.4	(2.33)
103	ML	37.3	68.3	(2.04)
104	MLP	37.5	63.6	(1.70)
105	0	38.6	69.8	0.42
106	R	32.4	63.3	0.54
107	RL	44.2	62.3	0.67
108	RLP	36.3	68.1	0.79
109	RLPK	41.6	64.7	0.58
110	0	44.2	63.4	(1.85)
		Wheat[1]	Corn[3]	Oats
201	0	33.8	42.7	72.0
202	M	35.0	43.7	84.4
203	ML	36.5	50.6	95.2
204	MLP	29.9	46.0	82.7
205	0	30.8	46.3	72.3
206	R	41.2	47.9	70.5
207	RL	27.2	52.5	68.6
208	RLP	29.7	49.2	71.2
209	RLPK	28.8	54.2	77.3
210	0	31.7	45.6	67.8
		Soybeans[1]	Wheat[2]	Corn
301	0	19.7	17.8	47.5
302	M	(1.78)	13.6	49.2
303	ML	(1.62)	10.1	56.2
304	MLP	(1.70)	15.5	58.5
305	0	20.2	12.8	44.1
306	R	19.1	13.7	39.9
307	RL	19.6	10.2	47.0
308	RLP	19.7	14.3	51.0
309	RLPK	22.2	16.4	57.6
310	0	19.7	14.8	44.0
		Oats[1]	Clover[4]	Wheat[5]
401	0	83.8	(2.43)	26.5
402	M	80.0	(2.34)	27.5
403	ML	91.6	(2.51)	27.3
404	MLP	77.0	(2.04)	26.1
405	0	84.8	....	30.2
406	R	77.5	....	34.8
407	RL	88.1	....	32.0
408	RLP	87.8	....	33.2
409	RLPK	95.6	....	38.7
410	0	72.2	(1.95)	19.7

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]Limestone only. [2]No manure or potassium. [3]No potassium. [4]No phosphorus, manure or potassium. [5]No manure.

TABLE 34.—LAMOILLE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; LATE WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1910 Barley[1]	1911 Corn[2]	1912 Oats[2]	1913 Soybeans[5]	1914 Wheat[6]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre							
101	0.....	32.6	82.5	63.9	(1.94)	45.7	33.3	75.0	(1.34)
102	M.....	41.7	84.8	63.1	(1.75)	44.5	45.2	77.3	(1.37)
103	ML.....	39.8	79.6	60.9	(1.56)	41.3	38.3	66.9	(1.32)
104	MLP....	37.7	72.4	46.7	(1.55)	37.5	36.1	61.2	(1.40)
105	0.....	30.5	73.5	64.2	17.5	39.2	20.0	54.7	.25
106	R.....	48.0	79.4	66.4	17.7	46.8	31.1	73.1	.29
107	RL.....	41.1	81.5	67.2	19.0	46.9	32.1	74.4	.29
108	RLP....	46.7	80.0	65.6	19.1	46.7	33.1	70.3	.29
109	RLPK...	41.0	74.2	57.2	19.7	45.9	32.6	67.3	.58
110	0.....	41.7	75.0	61.6	18.3	43.0	24.6	67.3	(1.31)
		Soybeans[1]	Wheat[3]	Corn[4]	Oats	Clover	Wheat	Corn	Oats
201	0.....	15.0	19.3	87.8	63.6	(3.29)	30.8	38.4	88.0
202	M.....	16.3	43.3	88.7	75.2	(4.83)	42.1	46.5	89.4
203	ML.....	14.9	38.2	83.1	72.5	(4.67)	47.1	47.3	89.7
204	MLP....	15.0	37.8	78.9	69.7	(4.56)	48.3	44.0	95.9
205	0.....	11.3	37.9	69.5	64.4	4.08	46.8	32.8	87.5
206	R.....	12.2	41.2	73.9	72.2	2.75	45.8	39.4	95.9
207	RL.....	12.0	41.2	73.9	73.0	3.00	36.7	42.2	89.4
208	RLP....	11.3	41.3	70.1	75.5	3.25	40.8	39.7	91.7
209	RLPK...	11.3	39.6	77.0	66.7	3.25	45.8	38.1	85.2
210	0.....	14.0	40.8	67.4	71.9	(4.14)	34.2	36.3	81.6
		Oats[1]	Soybeans[2]	Barley[3]	Corn	Oats	Soybeans	Wheat	Corn
301	0.....	61.3	18.0	44.7	35.6	51.6	(2.20)	21.5	22.8
302	M.....	74.1	21.2	46.3	51.2	58.9	(2.20)	29.8	40.3
303	ML.....	65.9	22.1	47.2	46.6	60.5	(2.18)	30.7	36.1
304	MLP....	59.4	21.2	43.0	47.9	56.2	(2.20)	28.6	42.5
305	0.....	44.7	21.8	44.8	40.2	50.0	16.2	10.9	24.6
306	R.....	52.8	20.4	45.2	58.9	57.5	16.8	25.9	31.2
307	RL.....	70.5	21.9	52.2	58.8	60.5	16.6	36.2	38.9
308	RLP....	61.6	21.0	47.5	58.8	60.2	14.4	34.2	35.8
309	RLPK...	53.4	19.7	47.1	51.0	57.8	14.7	32.7	34.1
310	0.....	58.6	20.0	44.5	36.1	46.1	(1.96)	25.3	20.1
		Corn[1]	Oats[2]	Soybeans[3]	Wheat[6]	Corn	Oats	Clover	Wheat
401	0.....	34.6	57.5	(2.11)	42.7	44.3	75.8	(2.90)	40.1
402	M.....	35.4	55.6	(2.17)	45.8	57.3	80.8	(2.77)	45.2
403	ML.....	37.2	58.1	(2.14)	44.6	55.7	90.8	(2.54)	46.8
404	MLP....	36.2	61.9	(2.20)	45.8	61.2	83.4	(2.51)	45.3
405	0.....	37.4	68.1	30.6	48.8	49.9	54.7	.25	42.8
406	R.....	40.5	66.6	28.8	54.4	58.5	85.8	.25	44.4
407	RL.....	39.8	66.3	27.1	55.9	52.9	68.8	.08	48.2
408	RLP....	38.9	63.0	25.8	53.8	56.2	76.6	.17	48.8
409	RLPK...	39.4	58.9	25.8	49.8	59.1	85.9	.33	49.1
410	0.....	36.9	50.8	26.0	44.4	40.7	64.1	(2.64)	39.8

[1]No soil treatment. [2]Residues only. [3]No lime or manure. [4]No lime. [5]No phosphorus, manure or potassium. [6]No manure.

TABLE 34a.—LAMOILLE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

BROWN SILT LOAM; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1913 Potatoes	1914 Potatoes	1915 Alfalfa	1916 Alfalfa	1917 Alfalfa[8]
		Bushels of potatoes or tons of alfalfa hay, per acre				
501	0	153.2	140.3	....	3.39	....
502	M	156.8	108.2	....	4.58	....
503	ML	163.5	111.7	....	4.77	....
504	MLP	161.8	124.3	....	4.08	....
		Alfalfa[7]	Alfalfa[8]	Potatoes	Potatoes	Alfalfa[8]
601	0	....	6.64	203.0	99.2	....
602	M	....	6.68	222.8	216.3	....
603	ML	....	6.82	228.5	196.7	....
604	MLP	....	6.58	182.0	160.2	....
		Alfalfa[7]	Alfalfa[6]	Alfalfa[6]	Alfalfa[6]	Potatoes
701	0	....	5.39	4.20	4.64	64.0
702	M	....	5.20	4.73	4.77	98.0
703	ML	....	5.28	4.83	5.27	91.8
704	MLP	....	5.32	4.70	4.72	96.8
		Alfalfa[7]	Alfalfa[6]	Alfalfa[6]	Alfalfa[6]	Alfalfa[8]
801	0	....	5.24	4.29	4.48	....
802	M	....	5.01	4.46	4.61	....
803	ML	....	5.79	4.60	4.45	....
804	MLP	....	6.24	6.01	4.64	....

[6]No manure. [7]No soil treatment; plot yields not taken. [8]Winter-killed.

TABLE 35.—LAMOILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat 4 crops[1]	Clover 3 crops	Potatoes 5 crops
1	0	34.9	70.8	34.5	(2.51)	131.9
2	M	48.1	76.3	40.4	(2.99)	160.4
3	ML	44.8	76.1	41.5	(2.84)	158.4
4	MLP	46.3	73.2	39.9	(2.82)	145.0
5	0	33.5	62.3	34.9	1.52	.....
6	R	43.8	76.9	40.7	1.10	.....
7	RL	45.0	73.2	42.0	1.12	.....
8	RLP	44.7	74.9	42.6	1.24	.....
9	RLPK	43.0	72.6	43.4	1.38	.....
10	0	31.6	66.2	35.6	(2.70)	.....

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. Series 500, 600, 700, and 800 are used for a rotation of potatoes and alfalfa. The potatoes are grown for two years and alfalfa for six years. Limestone at the rate of 4 tons per acre is applied before the alfalfa; and rock phosphate at the rate of 2 tons per acre, before the first crop of potatoes. Fifteen tons of manure is applied for each potato crop.

[1]No manure on 1914 wheat.

TABLE 36.—LEBANON FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL*; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910 Wheat[1]	1911 Corn[2]	1912 Oats[2]	1912 Stubble clover	1913 Clover[2]	1914 Wheat	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre								
101	0.....	....	49.6	36.1	(.76)	(1.12)	24.7	37.7	26.4	(2.12)
102	M.....	....	50.6	49.8	(1.40)	(2.48)	31.8	50.5	38.9	(3.64)
103	ML.....	....	50.7	43.3	(1.22)	(2.14)	30.8	62.2	42.2	(3.24)
104	MLP....	....	49.0	48.4	(1.14)	(1.86)	32.3	57.0	45.6	(3.62)
105	0.....	....	45.9	42.8	(.71)	(1.20)	22.6	42.4	30.6	1.25
106	R.....	....	44.4	43.6	....	....	25.6	39.3	33.1	.83
107	RL.....	....	44.7	42.8	....	....	27.5	52.4	41.6	.75
108	RLP....	....	46.1	51.4	....	....	30.0	48.7	43.4	.75
109	RLPK...	....	44.2	55.0	....	....	26.2	50.0	46.9	.58
110	0.....	....	44.8	38.4	(.50)	(1.08)	23.8	35.9	29.1	(2.80)

		Cowpeas[1]	Wheat[3]	Corn	Oats	Soybeans	Wheat	Stubble clover	Corn	Oats
201	0.....	....	27.3	34.0	3.1	(.46)	25.0	(1.48)	15.3	39.1
202	M.....	....	27.4	48.6	7.3	(.37)	30.8	(1.80)	27.6	48.9
203	ML.....	....	30.0	48.7	5.8	(.41)	33.0	(1.78)	29.5	71.1
204	MLP....	....	29.6	46.2	6.1	(.41)	32.4	(1.80)	28.1	66.2
205	0.....	....	23.9	27.6	5.2	2.8	19.2	....	10.5	42.7
206	R.....	....	24.3	33.1	3.6	3.2	23.8	....	17.7	60.0
207	RL.....	....	25.0	45.4	5.5	4.4	32.0	....	26.6	79.1
208	RLP.....	....	26.1	43.6	5.5	3.8	33.0	....	29.8	63.4
209	RLPK...	....	26.8	44.2	6.1	4.8	30.0	....	33.2	77.5
210	0.....	....	31.0	28.9	3.1	4.1	20.2	....	11.1	43.4

TABLE 36.—LEBANON FIELD, *Concluded*

Plot No.	Soil treatment applied	1910 Wheat[1]	1911 Clover[4]	1912 Wheat[2]	1912 Stubble clover	1913 Corn	1914 Oats	1915 Clover	1916 Wheat	1917 Corn
		Bushels or (tons) per acre								
301	0.....	....	(2.58)	22.8	(.81)	33.0	3.1	(4.83)	23.1	42.1
302	M.....	....	(2.91)	26.8	(1.77)	29.6	7.0	(5.04)	27.8	47.2
303	ML.....	....	(2.60)	26.3	(2.18)	35.5	8.6	(5.28)	28.4	57.1
304	MLP....	....	(2.55)	27.5	(1.75)	30.4	7.2	(5.28)	28.5	56.8
305	0.....	....	3.33	17.5	(.87)	23.2	2.7	.42	18.3	36.5
306	R.....	....	2.42	27.2	....	30.6	2.7	.33	20.2	47.7
307	RL.....	....	2.50	28.0	....	40.6	5.0	.33	21.6	60.3
308	RLP.....	....	2.50	30.0	....	37.4	7.7	.42	23.7	61.4
309	RLPK...	....	2.67	31.5	....	41.5	10.0	.42	27.2	70.4
310	0.....	....	(2.26)	23.5	(1.62)	33.9	4.7	(3.80)	22.2	44.0

		Corn[1]	Oats[5]	Soybeans[5]	Wheat[3]	Corn[6]	Oats	Stubble clover	Clover	Wheat
401	0.....	16.2	20.5	(1.03)	15.2	1.0	25.3	(1.36)	(2.69)	45.5
402	M.....	13.6	18.9	(1.09)	15.2	2.9	25.6	(1.58)	(2.50)	46.7
403	ML.....	15.0	20.8	(1.24)	21.2	5.5	33.6	(1.80)	(2.58)	53.2
404	MLP....	14.7	23.1	(1.41)	21.3	6.3	32.2	(1.83)	(2.53)	60.6
405	0.....	16.5	26.1	4.5	18.6	2.1	22.2	1.08	.83	39.1
406	R.....	16.8	18.6	5.9	18.8	2.9	31.2	1.25	.67	39.8
407	RL.....	16.1	21.6	6.5	27.2	6.2	35.2	1.17	.67	49.3
408	RLP.....	18.4	24.1	8.3	26.7	7.2	34.1	1.08	.75	54.7
409	RLPK...	16.9	28.3	7.3	30.9	8.2	47.3	1.25	.83	50.5
410	0.....	13.4	21.9	(1.43)	18.3	5.1	16.9	(1.38)	(2.09)	42.1

*East end of field varies toward brown silt loam on clay.

[1]No soil treatment applied; yields taken of corn only; legumes plowed under on residue plots. [2]No phosphorus or potassium. [3]No manure. [4]Limestone only. [5]No manure, phosphorus, or potassium. [6]Insect injury.

TABLE 36a.—LEBANON FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1911 Potatoes	1912 Corn	1913 Soybeans	1914 Potatoes	1915 Corn	1916 Soybeans	1917 Potatoes
		Bushels or (tons) per acre						
501	0.....	30.1	55.9	24.0	13.3	45.0	22.8	22.0
502	M.....	32.0	65.9	24.1	17.6	65.4	22.0	64.8
503	ML.....	20.5	58.1	21.9	16.6	60.8	21.2	63.8
504	MLP....	17.5	57.5	24.4	8.5	61.6	19.8	33.6
		Soybeans[1]	Potatoes	Corn	Soybeans	Potatoes	Corn	Soybeans
601	0.....	(2.12)	77.5	57.0	30.7	100.1	42.3	(3.10)
602	M.....	(2.02)	67.1	60.2	31.7	110.0	41.9	(3.18)
603	ML.....	(2.17)	53.1	63.8	34.6	132.3	45.6	(3.22)
604	MLP....	(1.90)	67.4	51.9	30.7	90.6	43.5	(3.58)
		Corn[1]	Soybeans[1]	Potatoes	Corn	Soybeans	Potatoes	Corn
701	0.....	48.2	(2.93)	35.3	13.0	11.8	63.3	59.6
702	M.....	46.4	(2.53)	40.5	16.7	10.3	83.7	59.0
703	ML.....	38.1	(2.08)	31.9	19.3	13.7	68.9	58.1
704	MLP....	43.2	(2.22)	29.3	19.2	12.5	73.9	64.4

[1]Limestone only.

TABLE 37.—LEBANON FIELD, MAIN ROTATION: GENERAL SUMMARY FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 6 crops	Oats 5 crops	Wheat 4 crops	Clover 4 crops
1	0.....	27.2	19.4	29.6	(3.12)
2	M.....	34.4	25.5	34.3	(3.64)
3	ML.....	39.8	32.3	36.3	(3.89)
4	MLP.....	37.5	31.5	38.4	(3.76)
5	0.....	23.7	20.7	24.8	.90
6	R.....	28.6	26.1	27.3	.77
7	RL.....	38.6	35.3	32.6	.73
8	RLP.....	38.0	30.8	35.2	.75
9	RLPK.....	41.2	37.6	33.5	.77
10	0.....	26.5	19.4	27.1	(2.52)

TABLE 37a.—MINOR ROTATION

		Corn 6 crops	Potatoes 7 crops	Soybeans 5 crops[1]
1	0.....	45.4	48.8	24.0
2	M.....	51.5	59.4	24.0
3	ML.....	51.0	55.3	24.7
4	MLP.....	49.7	45.9	24.4

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. The minor rotation is corn, soybeans, and potatoes, the soil treatment being the same as for the main rotation with the exception that 45 tons of manure is applied per acre for the potato crop.

[1]One crop was hay; in making this average, 1 ton of hay is counted equivalent to 10 bushels of seed.

TABLE 38.—McNABB FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM FORMERLY TIMBERED*; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1907 Cow-peas[1]	1908 Corn[1]	1909 Oats[2]	1910 Wheat[2]	1911 Soy-beans	1912 Corn	1913 Oats	1914 Wheat	1915 Soy-beans	1916 Corn	1917 Oats
		Bushels or (tons) per acre										
101	R	....	73.6	30.0	36.8	27.7	67.0	45.3	26.5	19.8	31.0	62.8
102	RP	....	74.4	35.0	40.8	26.7	81.4	48.4	30.2	20.0	39.6	71.9
103	0	....	80.4	41.3	42.5	27.5	74.8	50.0	30.2	17.7	38.8	92.8
104	MP	....	69.6	39.4	34.2	24.5	73.4	48.8	30.2	(2.16)	41.0	94.4
105	M	....	53.8	32.2	30.8	18.8	70.8	49.1	22.7	(1.96)	36.4	85.3
		Oats[1]	Clover[1]	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat	Soy-beans	Corn
201	R	19.1	1.94	84.0	61.9	49.3	....	52.2	62.2	39.3	....	61.0
202	RP	20.0	2.17	93.2	60.9	48.1	....	59.4	58.8	42.2	....	67.8
203	0	19.7	(2.02)	92.6	57.8	45.8	(3.41)	61.0	58.1	40.3	(2.07)	64.6
204	MP	19.4	(1.92)	96.2	68.8	44.8	(3.78)	60.0	59.1	41.8	(1.93)	63.4
205	M	19.7	(1.85)	94.0	65.6	43.7	(3.54)	53.8	51.2	39.7	(1.84)	60.8
		Oats[1]	Wheat[1]	Clover[1]	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat	Soy-beans
301	R	20.9	41.0	....	111.4	63.1	9.7	....	63.8	33.8	35.0	16.7
302	RP	22.2	42.5	....	111.2	61.6	11.8	....	61.2	42.2	36.7	20.0
303	0	22.5	39.8	(2.85)	112.2	57.5	10.0	(4.25)	59.2	42.2	38.3	(1.44)
304	MP	21.6	41.7	(3.12)	115.6	60.3	10.5	(3.98)	66.6	54.1	38.8	(2.18)
305	M	18.4	31.7	(2.54)	96.8	57.2	10.0	(3.72)	57.6	49.7	38.2	(1.85)
		Corn[1]	Oats[2]	Wheat[2]	Clover[2]	Corn	Oats	Wheat	Clover	Corn	Oats	Wheat
401	R	67.4	25.3	23.7	1.25	105.3	91.3	41.7	1.17	53.4	50.0	40.5
402	RP	66.9	23.8	25.5	.83	113.4	98.1	38.3	1.17	59.0	52.2	43.2
403	0	72.0	26.6	28.2	(2.43)	109.8	90.3	41.0	(1.70)	60.8	40.9	34.7
404	MP	68.8	24.4	27.5	(2.49)	104.5	88.8	41.7	(1.78)	57.4	47.5	37.3
405	M	64.4	23.8	24.7	(2.18)	105.1	85.3	41.2	(1.96)	52.8	45.9	36.0

*Brown silt loam, altho a prairie type, may be timbered for a short time without changing the type.
[1]Phosphorus only. [2]No manure.

TABLE 40.—MINONK FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1910[1] Barley	1911 Corn[2]	1912 Oats[4]	1913 Clover[4]	1914 Wheat[5]	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre							
101	0.....	38.1	72.8	42.8	(3.94)	53.2	51.8	63.1	(1.43)
102	M.....	29.4	66.8	43.4	(4.04)	51.3	56.4	55.3	(1.70)
103	ML.....	29.5	63.1	39.7	(3.86)	55.8	61.4	55.6	(1.94)
104	MLP....	33.7	61.0	39.1	(3.61)	49.0	57.0	50.9	(2.06)
105	0.....	33.0	58.6	41.3	.67	53.0	50.0	52.2	20.0
106	R.....	36.9	72.3	51.3	.83	47.0	52.2	55.9	19.2
107	RL.....	39.9	71.2	42.5	.67	35.2	43.8	58.1	18.0
108	RLP....	44.0	72.4	37.5	.67	33.8	40.2	60.6	17.8
109	RLPK...	39.5	73.8	31.9	.50	29.8	43.8	60.6	16.0
110	0.....	42.4	68.8	34.4	(1.63)	27.3	43.6	56.9	(1.23)
		Soybeans	Wheat[3]	Corn	Oats	Soybeans	Wheat	Corn	Oats
201	0.....	13.3	25.9	65.4	39.7	(1.10)	52.2	37.5	76.1
202	M.....	14.7	25.7	70.6	38.0	(1.22)	52.6	35.7	67.0
203	ML.....	15.0	28.5	69.4	41.6	(1.23)	53.6	35.1	73.8
204	MLP....	14.7	25.8	74.3	41.6	(.98)	61.1	31.6	65.8
205	0.....	13.3	26.0	63.9	39.1	8.7	51.0	26.4	63.6
206	R.....	12.5	26.8	65.0	35.0	10.8	51.2	37.1	78.9
207	RL.....	13.5	22.7	69.7	36.2	8.5	49.9	34.9	75.0
208	RLP....	11.2	22.2	68.4	40.2	8.8	47.6	35.6	79.7
209	RLPK...	11.8	23.8	69.8	44.4	7.7	48.1	34.6	78.9
210	0.....	12.7	20.0	66.3	44.1	(.69)[6]	44.5	22.8	63.8
		Oats	Clover[2]	Wheat[5]	Corn	Oats	Soybeans	Wheat	Corn
301	0.....	67.2	(2.75)	11.1	54.1	40.6	(1.72)	30.7	54.7
302	M.....	66.9	(2.65)	11.3	63.9	42.0	(1.70)	37.7	63.8
303	ML.....	65.5	(2.54)	15.6	60.6	43.3	(1.78)	35.1	67.5
304	MLP....	62.8	(2.65)	17.9	65.2	44.8	(1.70)	38.0	69.3
305	0.....	58.3	(2.82)	15.3	57.9	45.0	19.7	34.5	46.4
306	R.....	58.3	...	17.8	64.0	44.5	18.6	38.3	60.6
307	RL.....	56.7	...	15.8	62.0	45.8	18.3	35.5	70.0
308	RLP....	56.9	...	18.0	58.7	42.5	20.7	34.4	68.7
309	RLPK...	61.9	...	13.3	59.2	38.8	19.2	31.8	69.9
310	0.....	64.2	(2.05)	6.7	44.5	29.2	(1.63)	28.2	52.9
		Corn	Oats[2]	Soybeans[4]	Wheat[5]	Corn	Oats	Clover	Wheat
401	0.....	52.0	52.5	(1.27)	33.8	19.9	89.4	(2.07)	9.9
402	M.....	48.9	52.5	(1.54)	31.8	22.6	93.0	(2.06)	14.0
403	ML.....	50.9	55.3	(1.10)	27.9	18.7	93.4	(1.82)	11.2
404	MLP....	51.8	49.4	(1.24)	33.5	24.7	103.1	(2.32)	17.1
405	0.....	52.4	55.6	10.7	33.7	24.2	93.4	.25	17.9
406	R.....	49.6	56.4	10.6	39.2	33.8	88.1	.08	23.9
407	RL.....	45.4	54.8	11.5	38.7	38.6	100.0	.00	21.2
408	RLP....	45.0	55.5	11.5	41.2	35.8	101.9	.08	22.8
409	RLPK...	51.6	53.3	11.4	44.0	35.9	105.5	.08	21.5
410	0.....	45.4	53.4	13.0	36.7	27.5	106.0	(2.30)	12.1

[1]No treatment. [2]Residues only. [3]No manure or limestone. [4]Residues and limestone only. [5]No manure. [6]Estimated.

TABLE 39.—McNABB FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 9 crops	Oats 8 crops	Wheat 7 crops	Clover 3 crops
1	R	69.9	58.8	34.6	.39
2	RP	76.2	61.8	35.8	.39
3	0	74.9	61.2	34.3	(3.12)
4	MP	75.3	65.2	35.0	(3.18)
5	M	68.7	61.2	33.1	(3.07)

GENERAL NOTES.—The rotation followed is corn, oats, wheat, and clover. Legume catch crops are seeded in the corn. The manure, residues, and phosphorus are applied as described in the introduction. (A strip running thru the middle of this field occupied by Plot 3 is abnormally productive.)

TABLE 41.—MINONK FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 6 crops	Oats 5 crops	Wheat 4 crops[1]	Clover 1 crop	Soybeans 3 crops
1	0	47.2	61.8	36.5	(2.07)	(1.42)
2	M	52.2	59.1	38.9	(2.06)	(1.54)
3	ML	52.1	61.5	38.9	(1.82)	(1.65)
4	MLP	53.7	61.2	41.3	(2.32)	(1.58)
5	0	44.8	58.7	39.1	.25	16.1
6	R	52.1	60.5	40.1	.08	16.2
7	RL	53.2	63.0	35.4	.00	14.9
8	RLP	51.2	65.0	34.7	.08	15.8
9	RLPK	52.2	65.6	32.8	.08	14.3
10	0	42.9	60.0	28.0	(2.39)	(1.18)

NOTE.—The rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 crop.

TABLE 42.—MT. MORRIS FIELD. MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

BROWN SILT LOAM PRAIRIE; IOWAN GLACIATION

Plot No.	Soil treatment applied	1910 Barley[1]	1911 Corn[2]	1912 Oats[2]	1913 Clover[5]	1914 Wheat[6]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre							
101	0.....	44.6	53.8	49.1	(3.17)	40.5	17.9	67.0	(1.23)
102	M.....	42.9	54.1	50.0	(3.70)	42.8	36.7	71.6	(1.72)
103	ML.....	30.2	46.7	27.0	(2.37)	36.2	41.0	63.0	(2.41)
104	MLP....	26.4	46.5	40.3	(2.18)	36.8	39.5	63.8	(2.52)
105	0.....	27.3	51.5	43.1	(2.59)	37.3	16.0	59.5	.50
106	R.....	23.1	52.1	39.4	.58	38.4	20.9	60.0	1.10
107	RL.....	32.8	53.5	41.9	1.00	42.8	35.2	61.9	1.33
108	RLP....	30.7	57.9	47.5	.83	43.4	38.0	54.7	1.17
109	RLPK...	34.7	52.9	48.4	.92	47.4	40.5	62.8	.83
110	0.....	30.7	55.7	41.6	(3.66)	44.6	19.7	30.3	(1.25)
		Soy-beans[1]	Wheat[3]	Corn[4]	Oats	Clover	Wheat	Corn	Oats
201	0.....	17.8	20.8	48.6	52.8	(1.85)	31.7	29.5	76.2
202	M.....	15.8	16.2	56.8	63.0	(2.74)	35.9	43.8	85.2
203	ML.....	15.2	15.4	57.4	50.3	(3.44)	40.1	50.7	97.3
204	MLP....	12.3	16.5	58.7	61.7	(3.52)	44.0	51.0	95.5
205	0.....	16.1	17.0	49.6	48.8	(1.74)	30.8	33.3	78.4
206	R.....	16.1	16.3	45.8	62.5	1.00	37.7	42.9	81.1
207	RL.....	16.3	18.2	48.8	63.3	1.25	42.1	55.5	95.8
208	RLP....	14.5	21.3	53.0	69.2	1.00	47.1	57.2	99.4
209	RLPK...	11.8	23.5	62.1	63.1	1.67	48.2	56.5	101.4
210	0.....	12.2	22.0	51.1	48.0	1.50	42.9	42.4	74.5
		Oats[1]	Soy-beans[3]	Bar-ley[3]	Corn	Oats	Clover	Wheat	Corn
301	0.....	54.2	13.7	32.2	57.5	57.3	(4.35)	13.3	28.9
302	M.....	53.1	18.3	31.3	72.9	56.4	(4.24)	17.6	48.2
303	ML.....	50.8	16.0	35.8	70.7	55.5	(4.18)	19.8	56.2
304	MLP....	51.6	17.4	33.3	67.1	51.7	(4.24)	24.8	57.4
305	0.....	70.9	15.3	31.5	58.4	43.8	.42	17.0	31.0
306	R.....	68.7	18.5	30.2	66.1	50.0	.50	19.7	38.0
307	RL.....	75.8	15.9	31.9	69.2	47.0	.42	22.3	48.7
308	RLP....	62.5	19.6	33.4	76.8	56.2	.17	26.8	51.7
309	RLPK...	78.1	16.9	39.3	68.9	54.2	.08	28.7	56.4
310	0.....	62.5	18.2	29.8	51.5	53.1	(3.37)	21.2	30.0
		Corn[1]	Oats[2]	Clover[2]	Wheat[6]	Corn	Oats	Clover	Wheat
401	0.....	34.3	60.2	(2.10)	25.2	58.2	70.0	(2.16)	7.1
402	M.....	35.1	63.6	(2.67)	26.2	71.3	67.0	(2.74)	7.8
403	ML.....	36.9	60.3	(2.87)	29.5	73.6	67.0	(3.09)	11.5
404	MLP....	35.8	70.3	(2.75)	33.3	68.8	69.4	(3.01)	11.8
405	0.....	37.1	65.3	(2.73)	27.8	58.4	66.4	.58	7.8
406	R.....	42.0	65.0	1.42	33.5	59.5	64.7	.50	8.1
407	RL.....	41.2	71.1	1.42	32.0	64.5	57.7	.67	11.5
408	RLP....	40.3	68.3	1.25	33.3	66.4	57.2	.50	13.6
409	RLPK...	40.9	68.3	1.17	36.8	67.5	57.3	.42	13.1
410	0.....	36.2	63.0	(2.18)	30.3	57.5	71.6	(2.23)	5.9

[1]No treatment. [2]Residues only. [3]No manure or lime. [4]No manure. [5]Residues and lime only.

TABLE 42a.—MT. MORRIS FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1913 Potatoes	1914 Potatoes	1915 Barley hay	1916 Alfalfa	1917 Alfalfa
		Bushels or (tons) per acre				
501	0	112.5	78.3	(.52)	(1.16)	....
502	M	163.2	158.0	(2.33)	(3.88)	....
503	ML	184.3	173.8	(1.96)	(5.33)	....
504	MLP	207.7	175.0	(1.79)	(5.10)	....
			Alfalfa[6]	Potatoes	Potatoes	Alfalfa
601	0	....	(5.32)	197.8	71.7	....
602	M	....	(5.47)	266.7	137.0	....
603	ML	....	(6.32)	252.5	145.0	....
604	MLP	....	(6.70)	265.8	144.7	....
			Alfalfa[6]	Alfalfa[6]	Alfalfa[6]	Potatoes
701	0	....	(5.78)	(5.01)	(4.98)	94.8
702	M	....	(5.95)	(5.16)	(5.77)	130.3
703	ML	....	(6.68)	(5.57)	(5.66)	126.5
704	MLP	....	(6.67)	(5.61)	(5.57)	119.8
			Alfalfa[6]	Alfalfa[6]	Alfalfa[6]	Alfalfa
801	0	....	(5.56)	(4.98)	(5.27)	....
802	M	....	(5.51)	(4.80)	(5.34)	....
803	ML	....	(5.42)	(4.55)	(5.40)	....
804	MLP	....	(5.77)	(4.90)	(5.17)	....

[6]No manure.

TABLE 43.—MT. MORRIS FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yield—bushels or (tons) per acre				
		Corn 5 crops	Oats 5 crops	Wheat[1] 4 crops	Clover 4 crops	Potatoes 5 crops
1	0	38.4	64.7	23.1	(2.40)	111.0
2	M	53.5	68.6	26.0	(2.86)	171.0
3	ML	58.4	66.6	26.9	(3.28)	176.4
4	MLP	56.8	68.4	29.3	(3.32)	182.6
5	0	39.4	59.4	23.2	.75	.....
6	R	45.5	63.7	26.0	.78	.....
7	RL	54.6	65.1	29.7	.92	.....
8	RLP	58.0	67.3	32.7	.71	.....
9	RLPK	58.0	67.8	34.3	.75	.....
10	0	40.2	55.5	26.1	(2.15)	.....

GENERAL NOTES.—The main rotation and soil treatment are standard, as described in the introduction. The minor rotation is potatoes and alfalfa, the potatoes being grown for two years and the alfalfa for six years; the soil treatment as indicated is standard, as described in the introduction, except that 15 tons per acre of manure is applied for each potato crop.

[1]No manure on 1914 wheat.

TABLE 44.—NEWTON FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912 Corn[1]	1913 Soybeans[3]	1914 Wheat[4]	1915 Corn	1916 Soybeans	1917 Wheat
		Bushels or (tons) per acre					
101	0	22.4	(.38)	0.3	4.4	(.72)	0.0
102	M	20.4	(.41)	0.3	4.6	(.78)	.3
103	ML	17.0	(.42)	1.8	15.6	(1.10)	12.3
104	MLP	28.4	(.50)	4.2	17.6	(1.16)	20.5
105	0	29.6	4.3	4.7	9.0	5.7	3.3
106	R	17.6	3.0	1.0	7.8	4.5	2.5
107	RL	14.2	3.2	1.8	15.6	5.3	11.3
108	RLP	28.4	3.8	7.0	18.6	7.7	18.5
109	RLPK	19.6	3.2	4.2	18.4	6.0	19.5
110	0	15.0	(.29)	0.2	2.8	(.57)	0.0
		Cowpeas[2]	Corn	Soybeans	Wheat	Corn	Soybeans
201	0	....	1.0	2.5	0.3	7.8	(0.0)
202	M	....	3.4	(.57)	0.5	12.2	(0.0)
203	ML	....	3.4	(.67)	4.8	13.8	(0.05)
204	MLP	....	4.4	(.62)	12.7	13.8	(0.05)
205	0	....	2.6	4.2	0.3	8.2	(0.07)
206	R	....	4.6	5.2	0.5	8.2	....
207	RL	....	3.6	5.2	4.5	12.0	....
208	RLP	....	3.8	6.0	13.0	11.8	....
209	RLPK	....	4.0	4.8	15.0	11.2	....
210	0	....	1.2	2.2	0.5	7.4	(0.14)
		Cowpeas[2]	Wheat[4]	Corn	Soybeans	Oats	Corn
301	0	....	0.3	23.2	(.09)	6.6	2.0
302	M	....	0.2	26.0	(.09)	6.2	7.4
303	ML	....	0.5	25.6	(.18)	20.3	11.0
304	MLP	....	1.3	22.2	(.24)	26.2	12.6
305	0	....	0.7	16.0	....	5.9	1.4
306	R	....	2.0	16.2	....	10.3	2.6
307	RL	....	1.7	15.8	....	18.1	5.0
308	RLP	....	2.8	16.4	....	25.9	4.0
309	RLPK	....	5.0	16.6	....	28.4	10.2
310	0	....	0.7	12.2	(.05)	5.6	.8
		Cowpeas[2]	Corn	Soybeans	Wheat	Corn	Soybeans
401	0	....	2.0	8.3	1.2	8.6	(0)
402	M	....	3.8	(.74)	2.3	9.6	(.26)
403	ML	....	1.6	(.77)	2.8	5.2	(.22)
404	MLP	....	1.0	(.74)	9.2	2.6	(.14)
405	0	....	1.4	7.0	.7	2.6	(.07)
406	R	....	0.6	7.8	.5	2.4	....
407	RL	....	0.2	8.2	1.5	1.2	....
408	RLP	....	0.0	8.2	7.3	.4	....
409	RLPK	....	0.2	8.5	13.2	.8	....
410	0	....	0.0	5.8	0.3	.6	(.02)

[1]No treatment. [2]Plot yields not taken. [3]Residues and lime only. [4]No manure.

TABLE 44a.—NEWTON FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS IN SOIL EXPERIMENTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre		
		Corn 7 crops	Soybeans 6 crops	Wheat 4 crops[1]
1	0	7.0	(.30)	.4
2	M	9.6	(.41)	.9
3	ML	10.9	(.50)	5.1
4	MLP	10.6	(.49	11.6
5	0	5.9	3.0	2.2
6	R	6.1	2.9	1.1
7	RL	7.6	3.1	4.8
8	RLP	7.9	3.7	11.4
9	RLPK	8.8	3.2	13.0
10	0	3.6	(.25)	.2

GENERAL NOTES FOR NEWTON FIELD.—On Series 100, 200, and 300 the rotation is corn with legume cover crop, soybeans or cowpeas, and wheat with legume cover crops. These three series are tile-drained. The same rotation is practiced on Series 400 but without tile drainage. The soil treatment on these four series is standard, as described in the introduction. Dolomitic limestone is used at the rate of 1,000 pounds per acre per year, the fineness being from 10-mesh down; that is, the total product passing thru a sieve with 10 meshes to the inch.

Series 500, 600, 700, 800, 900, and 1,000 (see Table 45) are used primarily to determine the effectiveness of different forms, kinds, amounts, and degrees of fineness of lime. The odd-numbered series (500, 700, 900) receive applications of high-calcium limestone or burnt lime, and the even-numbered series (600, 800, 1,000) receive dolomitic limestone or burnt lime. Plots 2, 3, 4, 5, and 6 on all series receive 500 pounds per acre per year; Plots 8, 9, 10, 11, and 12 receive 1,000 pounds; and Plots 14, 15, 16, 17, and 18 receive 2,000 pounds; all applications being based upon the equivalent of pure calcium carbonate. The rotation of these plots is the same as indicated above, and apart from the lime the soil treatments are standard. The main tile drain runs between Plots 16 and 17 across Series 500 to 1,000, thru a strip of low ground, and the nearby plots, especially Nos. 17 and 18 appear to be naturally more productive than the average.

[1]No manure on 1914 wheat.

TABLE 45.—NEWTON FIELD: CROP YIELDS IN LIME EXPERIMENTS

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912 Corn[1]	1913 Soy-beans[2]	1914 Wheat	1915 Corn	1916 Soy-beans	1917 Wheat
			Bushels per acre					
501	RPK	.....	15.4	4.3	4.7	7.8	3.2	9.0
502	RPKL	½ down	18.8	4.3	5.7	15.4	6.7	19.5
503	RPKL	½ to 10	19.0	3.7	5.8	13.0	5.5	15.0
504	RPKL	10 down	20.0	3.3	5.2	15.0	5.5	18.3
505	RPKL	50 down	18.4	3.5	4.7	12.0	4.5	17.7
506	RPKL	Burnt	18.4	3.2	5.2	8.4	3.5	16.2
507	RPK	.....	16.0	3.0	3.5	2.2	1.7	7.8
508	RPKL	4 down	19.6	3.2	4.8	7.4	4.2	16.0
509	RPKL	4 to 10	18.8	4.0	3.2	7.2	4.2	17.2
510	RPKL	10 down	17.0	3.2	4.5	9.8	6.0	19.5
511	RPKL	50 down	14.0	5.0	6.3	10.2	5.7	18.3
512	RPKL	Burnt	19.8	4.5	4.8	7.8	6.0	18.5
513	RPK	.....	11.4	4.7	2.3	3.0	3.3	6.5
514	RPKL	4 down	14.2	4.2	6.8	13.4	9.2	21.2
515	RPKL	4 to 10	15.4	4.2	4.0	11.4	8.2	18.3
516	RPKL	10 down	14.8	4.8	8.8	16.4	8.0	23.5
517	RPKL	50 down	13.0	3.5	9.2	14.8	8.7	25.7
518	RPKL	Burnt	11.6	4.5	11.5	12.0	8.3	21.5
519	RPK	.....	11.0	4.0	1.5	2.8	1.3	6.5
			Corn[1]	Soy-beans[2]	Wheat	Corn	Soy-beans	Wheat
601	RPK	.....	22.0	3.0	2.5	4.0	4.7	3.2
602	RPKL	4 down	25.6	2.0	5.0	13.4	8.0	22.8
603	RPKL	4 to 10	25.6	3.2	16.8	17.6	9.5	26.5
604	RPKL	10 down	22.0	2.5	9.2	17.0	5.8	24.5
605	RPKL	50 down	18.8	3.7	4.8	12.8	3.5	18.5
606	RPKL	Burnt	13.8	1.7	2.3	7.6	3.3	17.2
607	RPK	.....	16.2	1.8	2.3	1.4	2.0	11.3
608	RPKL	4 down	13.4	1.2	1.5	5.0	3.7	15.3
609	RPKL	4 to 10	13.8	1.2	1.5	5.2	3.2	11.8
610	RPKL	10 down	15.8	1.2	1.7	6.0	3.7	16.8
611	RPKL	50 down	12.0	1.7	1.5	5.6	3.2	13.3
612	RPKL	Burnt	10.6	2.5	1.8	3.8	3.0	12.7
613	RPK	.....	12.6	1.5	1.3	1.0	2.2	7.2
614	RPKL	4 down	12.0	2.2	2.2	7.4	5.8	20.0
615	RPKL	4 to 10	11.0	1.3	2.3	8.8	6.5	16.5
616	RPKL	10 down	8.2	2.0	4.2	16.4	5.8	20.3
617	RPKL	50 down	8.4	2.2	5.7	17.8	6.8	22.2
618	RPKL	Burnt	7.0	4.2	8.5	12.8	7.3	16.7
619	RPK	.....	7.0	3.3	6.3	3.6	4.2	5.2

NOTE.—See "general notes," Table 44a, preceding page, for explanation of limestone treatment.

[1]No treatment. [2]No phosphorus or potassium.

TABLE 45.—NEWTON FIELD, *Continued*

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912 Cowpeas[1,2]	1913 Corn	1914 Soybeans	1915 Wheat	1916 Corn	1917 Soybeans[2]
			Bushels per acre					
701	RPK	.....	....	2.0	9.8	7.0	9.8	....
702	RPKL	4 down	....	1.6	11.0	17.3	12.6	....
703	RPKL	4 to 10	....	1.6	10.7	14.7	11.4	....
704	RPKL	10 down	....	2.8	10.2	18.8	11.4	....
705	RPKL	50 down	....	1.0	9.7	18.7	8.8	....
706	RPKL	Burnt	....	.2	10.2	18.7	6.8	....
707	RPK	.....	....	.2	9.5	10.3	4.8	....
708	RPKL	4 down	....	.2	11.5	16.0	5.4	....
709	RPKL	4 to 10	....	.2	11.5	13.5	4.4	....
710	RPKL	10 down	....	.2	13.2	16.5	3.8	....
711	RPKL	50 down	....	.4	11.2	17.0	3.2	....
712	RPKL	Burnt	....	.2	12.0	18.8	3.4	....
713	RPK	.....	....	.4	10.5	4.0	3.2	....
714	RPKL	4 down	....	.2	12.5	16.7	1.8	....
715	RPKL	4 to 10	....	.4	11.3	15.3	2.6	....
716	RPKL	10 down	....	.2	11.7	17.5	3.0	....
717	RPKL	50 down	....	.4	14.7	23.8	4.8	....
718	RPKL	Burnt	....	.8	12.3	23.3	6.4	....
719	RPK	.....	....	.4	7.7	5.7	6.0	....
			Cowpeas[1,2]	Corn	Soybeans	Wheat	Corn	Soybeans
801	RPK	.....	...	.2	9.8	11.2	3.4	....
802	RPKL	4 down	...	.2	10.2	14.0	3.2	....
803	RPKL	4 to 10	...	2	8.3	11.8	4.2	....
804	RPKL	10 down	...	.0	10.2	13.7	3.4	....
805	RPKL	50 down	...	.4	9.0	12.8	5.4	....
806	RPKL	Burnt	...	.4	10.0	17.5	8.4	....
807	RPK	.....	...	.4	8.8	6.0	6.0	....
808	RPKL	4 down	...	.2	10.3	16.3	8.8	....
809	RPKL	4 to 10	...	.4	11.2	12.2	8.8	....
810	RPKL	10 down	...	.4	11.2	17.0	8.4	....
811	RPKL	50 down	...	.2	11.2	19.5	7.0	....
812	RPKL	Burnt	...	.2	10.7	23.7	8.4	....
813	RPK	.....	...	.4	9.5	5.0	5.4	....
814	RPKL	4 down	...	.2	11.3	19.0	4.8	....
815	RPKL	4 to 10	..	.4	11.0	12.8	6.6	....
816	RPKL	10 down	...	.4	12.2	18.3	6.2	....
817	RPKL	50 down	...	.4	14.0	26.0	7.4	....
818	RPKL	Burnt	..	1.8	15.0	30.2	10.2	....
819	RPK	.....	...	3.0	7.7	7.2	9.6	....

[1]Phosphorus and potassium only. [2]Crop failure.

TABLE 45.—NEWTON FIELD, *Concluded*

Plot No.	Soil treatment applied	Limestone fineness, meshes per inch	1912 Cow-peas[1,2]	1913 Wheat	1914 Corn	1915 Soy-beans[2]	1916 Wheat[2]	1917 Corn
			Bushels per acre					
901	RPK	.....	...	4.5	6.4	....	....	4.2
902	RPKL	4 down	...	6.3	13.4	....	....	4.4
903	RPKL	4 to 10	...	7.5	17.6	....	....	2.8
904	RPKL	10 down	...	7.0	18.8	....	....	2.6
905	RPKL	50 down	...	8.0	21.6	....	....	4.0
906	RPKL	Burnt	...	9.3	19.6	....	....	4.6
907	RPK	.....		8.0	17.2	....	....	2.2
908	RPKL	4 down	...	9.0	20.0	....	....	4.8
909	RPKL	4 to 10	...	9.0	19.4	....	....	1.6
910	RPKL	10 down	...	9.2	15.2	....	....	3.4
911	RPKL	50 down	...	12.2	11.4	....	....	4.4
912	RPKL	Burnt	...	11.3	10.2	....	....	6.6
913	RPK	.....	...	8.5	12.8	....	....	3.2
914	RPKL	4 down	...	10.0	14.2	....	....	7.8
915	RPKL	4 to 10	...	8.2	15.0	....	....	6.6
916	RPKL	10 down	...	12.8	16.8	....	....	9.0
917	RPKL	50 down	...	13.5	9.6	....	....	10.8
918	RPKL	Burnt	...	14.2	17.2	....	....	12.0
919	RPK	.....	...	8.5	29.8	....	....	4.8
			Cow-peas[1,2]	Wheat	Corn	Soy-beans[2]	Wheat[2]	Corn
1001	RPK	.....	...	12.2	12.4	....	....	4.4
1002	RPKL	4 down	...	12.3	17.6	....	....	4.2
1003	RPKL	4 to 10	...	13.3	22.6	....	....	4.8
1004	RPKL	10 down	...	12.3	23.4	....	....	5.2
1005	RPKL	50 down	...	11.2	21.6	....	....	5.2
1006	RPKL	Burnt	...	13.5	20.6	....	....	7.2
1007	RPK	.....	...	13.7	28.0	....	....	5.4
1008	RPKL	4 down	...	15.7	35.0	....	....	9.0
1009	RPKL	4 to 10	...	14.0	30.0	....	....	3.4
1010	RPKL	10 down	...	13.0	24.6	....	....	2.8
1011	RPKL	50 down	...	12.5	13.2	....	....	3.2
1012	RPKL	Burnt	...	12.7	13.8	....	....	3.4
1013	RPK	.....	...	12.0	14.0	....	....	2.8
1014	RPKL	4 down	...	13.8	13.8	....	....	6.8
1015	RPKL	4 to 10	...	15.2	17.2	....	....	10.0
1016	RPKL	10 down	...	19.0	18.8	....	....	16.2
1017	RPKL	50 down	...	17.2	14.0	....	....	10.4
1018	RPKL	Burnt	...	16.2	22.6	....	....	11.8
1019	RPK	.....	...	17.2	28.2	....	....	5.4

[1]No treatment. [2]Crop failure.

TABLE 46.—OBLONG FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE: LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912 Oats[1]	1913 Clover[2]	1914 Wheat	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre					
101	0	12.0	(0.0)	4.6	31.5	13.1	(0.0)
102	M	23.0	(.27)	25.0	45.3	23.9	(.43)
103	ML	24.2	(.32)	26.8	51.8	30.8	(.90)
104	MLP	25.0	(.33)	28.8	51.5	31.1	(1.15)
105	0	22.7	0.0	7.5	28.4	6.7	0.0
106	R	24.7	0.0	8.3	30 9	16.4	0.0
107	RL	26.7	.25	21.7	42.3	30.2	2.92
108	RLP	29.2	.50	26.2	49.4	38.1	2.50
109	RLPK	31.2	.33	30.2	56.5	36.2	3.50
110	0	25.0	(0)	5.3	23.3	6.2	(0.0)
		Corn[1]	Oats[2]	Soy-beans[2]	Wheat[2]	Corn	Oats
201	0	14.2	1.2	4.6	9.2	11.3	36.6
202	M	27.3	1.7	(.64)	10.8	19.0	52.3
203	ML	46.3	7.5	(.95)	11.1	33.0	59.4
204	MLP	58.6	7.2	(.86)	16.2	34.6	64.7
205	0	45.3	5.5	7.4	5.7	20.9	49.2
206	R	37.7	6.4	7.0	8.8	23.4	52.3
207	RL	45.7	6.9	7.9	10.2	29.9	62.2
208	RLP	49.3	5.2	7.1	13.7	26.9	67.0
209	RLPK	53.9	5.2	7.8	15.8	32.6	67.7
210	0	43.7	1.9	6.9	3.1	12.4	36.1
		Wheat[1]	Corn	Oats	Soy-beans	Wheat	Corn
301	0	....	12.6	11.6	(1.09)	....	17.1
302	M	....	11.9	14.8	(1.44)	....	29.3
303	ML	....	11.2	19.7	(1.64)	....	48.4
304	MLP	....	10.1	21.9	(1.85)	....	50.7
305	0	....	14.5	12.3	14.3	....	21.4
306	R	....	9.5	22.5	13.9	....	28.7
307	RL	....	10.0	26.9	15.8	....	36.1
308	RLP	....	10.9	27.8	13.8	....	42.6
309	RLPK	....	12.8	31.9	15.8	....	55.9
310	0	....	14.4	13.4	(1.49)[3]	....	29.4
		Soy-beans[1]	Wheat[2]	Corn	Oats	Clover	Wheat
401	0	(.42)	.8	15.2	28.3	(.45)	7.5
402	M	(.45)	1.5	16.5	43.4	(.64)	16.9
403	ML	(.55)	3.9	16.4	58.6	(1.15)	21.0
404	MLP	(.71)	6.9	20.1	57.0	(1.52)	30.1
405	0	7.7	3.1	20.1	39.4	.50	14.4
406	R	8.2	3.2	23.7	36.1	.40	20.4
407	RL	10.6	6.4	27.8	48.6	1.42	28.2
408	RLP	11.1	10.7	30.2	60.3	3.33	35.3
409	RLPK	11.9	14.7	27.6	59.7	2.92	31.4
410	0	(.85)	1.2	17.2	29.2	(.44)	13.4

[1]No manure or residues. [2]No manure. [3]Estimated.

TABLE 47.—OBLONG FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 4 crops	Wheat 4 crops[1]	Clover 2 crops	Soybeans 2 crops[1]
1	0	17.6	22.4	5.3	(.22)	(.79)
2	M	24.4	33.6	13.2	(.53)	(1.04)
3	ML	32.2	42.1	14.7	(1.02)	(1.30)
4	MLP	33.4	43.7	18.8	(1.33)	(1.36)
5	0	21.1	26.9	6.9	.25	10.9
6	R	23.2	31.8	9.4	.20	10.4
7	RL	29.2	42.0	15.0	2.17	11.9
8	RLP	32.0	48.3	18.8	2.91	10.4
9	RLPK	37.1	48.9	19.3	3.21	11.8
10	0	19.3	21.2	5.4	(.22)	(1.18)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

[1]No manure on 1914 soybeans nor on 1915 wheat.

TABLE 48.—ODIN FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1902 Corn[2]	1903 Oats[1]	1904 Wheat	1905 Cow pea hay[3]	1906 Corn	1907 Cow pea hay	1908 Wheat	1909 Cow-pea hay	1910 Corn	1911 Soy-beans	1912 Wheat	1913 Clover	1914 Corn	1915 Soy-beans	1916 Wheat	1917 Clover
		Bushels or (tons) per acre															
Land Not Tile-drained																	
101	0.....	12.1	6.9	7.9	....	31.6	(.90)	17.3	(.65)	25.3	7.4	....	....	4.0	5.3	1.2	....
102	R.....	7.2	5.2	5.4	....	28.6	(.95)	14.4	(.67)	28.8	8.3	....	....	2.9	4.7	3.7	....
103	RL.....	8.8	6.2	10.7	....	28.5	(1.00)	18.5	(1.11)	38.0	10.1	....	....	1.8	15.7	9.8	....
104	RLP.....	4.9	8.6	21.6	....	30.8	(1.08)	26.6	(1.30)	36.6	6.9	....	....	2.3	16.7	15.8	....
105	RLPK.....	14.4	25.8	24.4	....	35.3	(1.80)	32.6	(1.52)	81.0	13.7	....	....	3.9	16.6	24.0	....
Land Tile-drained																	
106	0.....	11.5	8.1	6.7	....	31.7	(.76)	16.3	(.67)	26.1	8.1	....	....	4.3	10.2	.2	....
107	R.....	13.5	8.8	8.5	....	40.1	(1.00)	21.2	(.95)	38.9	8.8	....	....	4.8	8.2	5.4	....
108	RL.....	9.7	7.2	9.6	....	34.5	(.98)	22.1	(1.02)	39.9	7.2	....	....	2.8	24.4	9.2	....
109	RLP.....	9.5	12.3	21.5	....	33.7	(1.01)	28.9	(1.61)	42.0	7.2	....	....	2.0	15.3	17.1	....
110	RLPK.....	20.7	28.9	25.4	....	43.9	(1.32)	34.8	(1.99)	84.5	12.6	....	....	4.1	10.1	21.6	....
		Oats[1]	Wheat	Cow-peas[3]	Corn	Cow-pea hay	Wheat	Cow-peas	Corn	Soy-beans	Wheat	Soy-beans	Corn	Soy-beans	Wheat	Clover seed	Corn
Land Not Tile-drained																	
201	0.....	15.8	.4	....	36.1	(.93)	14.2	1.7	27.9	8.3	5.3	11.7	3.7	4.4	11.9	.42	8.4
202	R.....	16.1	.6	....	46.7	(1.08)	15.1	2.9	31.3	9.8	5.8	17.1	5.4	4.9	15.0	1.25	10.2
203	RL.....	14.1	.7	....	59.9	(.93)	18.6	2.5	27.3	5.3	15.0	20.4	4.2	5.0	16.0	1.67	7.5
204	RLP.....	16.7	5.8	....	57.7	(1.25)	26.8	2.3	35.2	8.8	16.6	21.5	4.3	5.2	25.0	1.67	9.5
205	RLPK.....	18.8	14.0	....	79.5	(2.47)	29.8	4.6	69.1	11.7	19.2	27.9	11.7	6.7	29.7	1.83	33.7
Land Tile-drained																	
206	0.....	12.2	.6	....	42.6	(.83)	14.3	1.4	25.5	6.6	4.9	5.6	2.0	3.6	14.3	.92	10.4
207	R.....	10.3	.6	....	37.4	(1.03)	16.9	2.3	26.3	6.8	6.7	6.1	2.1	3.8	14.3	1.50	14.1
208	RL.....	11.7	2.1	....	57.9	(1.30)	21.1	2.7	30.4	9.6	9.4	12.4	4.0	7.8	25.9	3.08	15.5
209	RLP.....	19.2	13.4	....	65.8	(1.68)	29.5	1.8	41.3	8.7	19.5	16.7	9.7	8.7	29.6	2.83	18.1
210	RLPK.....	17.7	15.2	....	71.6	(2.27)	31.8	3.9	55.3	14.3	23.2	23.1	8.6	7.6	31.8	2.00	27.4

[1]No residue.

[2]Treatment applied: 625 pounds dried blood, 330 pounds steamed bone and 240 pounds acidulated bone; 140 pounds muriate of potash, and 475 pounds slacked lime.

[3]Removed on Plots 1 and 6 and plowed under on others.

TABLE 48.—ODIN FIELD, *Concluded*

Plot No.	Soil treatment applied	1902 Corn[1]	1903 Cowpeas[3]	1904 Corn	1905 Oats	1906 Wheat	1907 Cowpea hay	1908 Corn	1909 Soybeans	1910 Wheat	1911 Soybeans	1912 Corn	1913 Soybeans	1914 Wheat	1915 Soybeans	1916 Corn	1917 Soybeans
		Bushels or (tons) per acre															
		Land Not Tile-drained															
301	0.....	19.5	....	53.1	23.0	12.1	(1.24)	39.3	7.4	11.7	11.3	30.3	3.0	5.0	3.9	15.8	3.1
302	R.....	10.7	....	48.8	19.4	13.7	(1.29)	31.4	9.2	7.8	11.7	27.8	2.9	2.7	2.0	18.0	4.2
303	RL.....	8.8	....	44.1	30.3	19.2	(.87)	33.0	5.0	26.3	6.9	44.2	2.4	14.9	7.6	22.8	5.7
304	RLP.....	10.7	....	44.1	39.2	21.1	(.94)	43.0	5.2	32.4	9.5	46.6	3.1	15.4	8.6	21.4	4.9
305	RLPK....	14.5	....	66.6	31.9	29.2	(2.13)	66.4	2.8	34.1	14.0	63.0	3.8	17.9	10.4	25.7	7.3
		Land Tile-drained															
306	0.....	7.5	....	29.4	24.8	11.2	(1.24)	28.6	3.4	6.3	6.1	27.7	3.4	2.4	4.3	10.0	4.4
307	R.....	10.0	....	31.6	24.5	15.5	(1.34)	28.3	3.9	4.4	6.8	35.7	2.9	2.8	5.2	14.2	5.8
308	RL.....	10.0	....	42.8	22.0	20.7	(1.14)	37.5	3.0	19.6	5.8	51.9	5.0	19.0	11.5	17.7	6.8
309	RLP.....	15.6	....	45.9	26.3	24.8	(.94)	42.6	1.4	31.3	7.0	55.9	4.6	20.0	10.3	18.0	6.9
310	RLPK....	16.3	....	64.1	31.1	31.5	(2.31)	70.0	4.5	29.2	12.7	50.9	5.7	20.8	10.7	33.2	8.5
		Cowpeas[1]	Corn	Oats	Wheat	Clover hay	Corn	Soybeans	Wheat	Cowpea hay	Corn	Soybeans	Wheat	Soybeans	Corn	Soybeans	Wheat
		Land Not Tile-drained															
401	0.....	(2.09)	17.9	28.6	15.2	(.22)	48.8	8.6	14.6	(.95)	21.2	13.9	18.5	7.8	43.7	6.0	20.1
402	R.....	...	16.6	36.7	16.6	(.28)	44.4	11.7	15.3	(.93)	23.5	17.8	16.7	8.0	47.0	8.3	16.9
403	RL.....	...	20.2	41.4	24.8	(.32)	45.3	14.0	20.3	(.66)	22.3	18.2	28.2	14.2	46.3	7.6	26.0
404	RLP.....	...	18.3	39.8	36.5	(.34)	45.7	16.8	27.2	(.52)	21.2	13.7	35.0	12.3	43.5	4.8	28.2
405	RLPK....	...	22.3	39.7	35.8	(1.27)	67.1	19.3	31.8	(.96)	43.4	15.4	33.2	12.4	58.2	5.8	27.8
		Land Tile-drained															
406	0.....	(1.88)	8.7	25.1	10.8	(.37)	33.2	7.8	14.0	(.65)	8.9	8.8	16.2	5.9	23.4	5.6	11.0
407	R.....	...	12.8	33.4	18.7	(.36)	48.8	7.8	18.4	(.65)	15.4	11.4	24.2	9.4	36.7	7.1	21.6
408	RL.....	...	17.6	53.3	23.9	(.50)	49.3	11.8	19.4	(.46)	25.1	17.4	31.4	12.2	45.3	5.8	19.7
409	RLP.....	...	15.9	44.8	35.3	(.63)	45.6	12.8	25.4	(.41)	21.5	18.7	36.9	9.8	41.7	4.1	23.1
410	RLPK....	...	15.0	43.1	28.4	(1.31)	62.3	13.0	27.8	(.99)	32.7	25.2	40.7	8.2	49.2	7.5	24.8

[1]No residue. [3]Removed on Plots 1 and 6 and plowed under on others.

TABLE 48a.—ODIN FIELD: CROP YIELDS IN PHOSPHATE EXPERIMENTS

Bushels or (tons) per acre

Plot No.	Soil treatment applied	1904 Corn[1]	1905 Oats	1906 Timothy hay	1907 Timothy hay	1908 Timothy & clover hay	1909 Corn	1910 Oats	1911 Timothy hay	1912 Timothy hay	1913 Timothy hay	1914 Corn	1915 Oats	1916 Timothy & clover	1917 Timothy
501W	RK(bP).....	52.5	22.6	(.82)	(1.06)	(1.09)	39.1	55.6	(.55)	(1.26)	(.84)	2.6	74.5	(1.19)	(1.61)
501E	RKL(bP)....	53.8		(.85)	(1.64)	(1.88)	45.3	55.5	(.93)	(1.50)	(1.03)	2.7	65.4	(1.10)	(1.75)
502W	RK.....	41.0	24.4	(.64)	(.98)	(.72)	39.5	44.1	(.35)	(.67)	(.49)	2.4	62.8	(.49)	(.75)
502E	RKL.....	33.8		(.96)	(1.06)	(1.46)	44.2	48.5	(.92)	(1.31)	(.73)	2.2	58.9	(.98)	(1.64)
503W	RK(aP).....	50.0	27.1	(.71)	(1.01)	(.70)	38.3	53.9	(.83)	(.93)	(.47)	1.4	77.5	(.57)	(.62)
503E	RKL(aP)	49.0		(1.06)	(1.19)	(1.45)	39.9	42.8	(1.05)	(1.39)	(1.00)	1.8	60.6	(1.04)	(1.73)
504W	RK(rP).....	46.8	26.4	(.64)	(.91)	(.67)	32.5	50.5	(.59)	(.95)	(.55)	1.6	79.8	(.51)	(.76)
504E	RKL(rP)	49.5		(1.08)	(1.20)	(1.63)	44.7	52.4	(1.25)	(1.52)	(1.02)	2.6	66.4	(1.09)	(1.67)
505W	RK.....	33.0	27.4	(.57)	(.85)	(.47)	31.1	40.1	(.24)	(1.12)	(.41)	1.0	55.8	(.33)	(.44)
505E	RKL.....	38.5		(1.04)	(1.14)	(1.29)	41.5	50.0	(.99)	(1.52)	(.76)	1.8	66.9	(1.03)	(1.47)
506W	RK(sP).....	46.0	25.2	(.64)	(.94)	(.74)	34.0	47.6	(.48)	(1.13)	(.72)	1.8	78.0	(.87)	(.83)
506E	RKL(sP).....	51.0		(.87)	(1.48)	(1.66)	44.9	61.4	(1.17)	(1.38)	(1.04)	2.2	80.8	(1.08)	(1.52)

GENERAL NOTES.—The rotation practiced in the soil experiments (Series 100 to 400) is corn, legumes (cowpeas or soybeans), wheat, and clover. Cowpeas are seeded in the corn at the last cultivation. Phosphorus is applied in 200 pounds of steamed bone meal, and potassium in 100 pounds of potassium sulfate, per acre per annum; 475 pounds of slacked lime was applied in 1902, 2 tons in 1903, and beginning with 1908 limestone was applied at the yearly acre-rate of 500 pounds to the west half and 1,000 pounds to the east half, of each limed plot. Crop residues and cover crops are plowed under on the residue plots.

The rotation in the phosphate experiments consists of corn, oats, and three years of clover and timothy hay. This field was planned to test the efficiency of equal money values of steamed bone meal, acid phosphate, rock phosphate, and slag phosphate on limed and unlimed land. Potassium is applied in 100 pounds of potassium sulfate per acre per year. Two hundred pounds of steamed bone meal is applied as the standard phosphorus application, the other forms are applied in equal money values (333 pounds of acid phosphate, 666 of rock phosphate, and 260 of slag phosphate per acre per year). The first application of lime was made in 1904 at the rate of 1½ tons per acre. Subsequent applications have been made at about the rate of 1,000 pounds per acre per annum.

[1]No residue.

TABLE 48b.—ODIN FIELD: SOIL EXPERIMENTS; GENERAL SUMMARY

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 15 crops	Wheat 15 crops	Peas or beans 15 crops	Clover 3 crops	Cowpea hay 9 crops	Oats 2 crops
	Land Not Tile-drained						
1	0	27.1	10.4	6.9	.14	(.54)	25.8
2	R	27.4	10.0	8.2	.41	(.58)	28.0
3	RL	29.7	16.6	9.4	.56	(.54)	35.9
4	RLP	30.7	22.3	9.3	.56	(.60)	39.5
5	RLPK	48.5	25.6	11.5	.30	(1.13)	35.8
	Land Tile-drained						
6	0	20.8	8.6	5.7	.15	(.50)	25.0
7	R	25.8	11.9	6.4	.25	(.59)	29.0
8	RL	31.5	16.9	9.6	.51	(.60)	37.7
9	RLP	33.3	23.8	8.9	.47	(.69)	35.6
10	RLPK	44.9	25.8	11.2	.33	(1.13)	27.1

Phosphate Experiments

Plot No.	Soil treatment applied	Timothy & clover hay 8 crops	Corn 2 crops	Oats 2 crops		
501W	RK(bP)	(1.11)	20.9	65.0	....	....
501 E	RKL(bP)	(1.35)	24.0	60.4	....	....
502W	RK	(.78)	21.0	53.4	....	....
502 E	RKL	(1.04)	23.2	53.7	....	....
503W	RK(aP)	(.91)	19.9	65.7	....	....
503 E	RKL(aP)	(1.11)	20.9	51.7	....	....
504W	RK(rP)	(.85)	17.0	65.1	....	....
504 E	RKL(rP)	(1.21)	23.7	59.4	....	....
505W	RK	(.72)	16.0	48.0	....	....
505 E	RKL	(1.03)	21.7	58.4	....	....
506W	RK(sP)	(.93)	17.9	62.8	....	....
506 E	RKL(sP)	(1.21)	23.6	71.1	....	....

TABLE 49.—ODIN FIELD: CROP YIELDS IN SOIL EXPERIMENTS, THREE- AND FOUR-YEAR SWEET-CLOVER ROTATIONS

GRAY SILT LOAM ON TIGHT CLAY; LOWER ILLINOISAN GLACIATION

Year	Soil treatment applied	Three-year rotation			Four-year rotation			
		Corn	Soybeans	Wheat	Corn	Soybeans	Wheat	Sweet Clover
		Bushels or (tons) per acre						
1906	RLP	38.3	(1.90)[1]	28.3	24.0	(1.60)[1]	32.7	[4]
1907	RLP	46.8	(1.27)[1]	24.0	51.5	(1.39)[1]	30.0	[4]
1908	RLP	49.0	9.6	30.7	58.3	8.8	27.7	[4]
1909	RLP	24.4	.7	23.3	39.2	1.5	25.5	[4]
1910	RLP	32.7	3.9	39.4[3]	41.3	5.0	70.3[3]	6.90
1911	RLP	25.3	8.0	12.8	59.5	7.1	17.2	3.60
1912	RLP	54.4	11.1	[2]	68.4	18.6	....[2]	[4]
1913	RLP	7.3	[2]	22.7	10.3	3.9	40.8	[4]
1914	RLP	7.3	2.2	12.8	2.0	4.4	23.3	....
1915	RLP	42.0	1.7	27.8	59.7	1.7	24.7	.83
1916	RLP	18.4	.6	2.2	19.8	8.0	2.2	2.78
1917	RLP	14.0	5.0	10.0	19.7	11.1	39.2	1.25
Average		29.9	4.3	17.7	37.6	7.0	23.9	....
Number of years averaged		12	10	11	12	10	11	....

GENERAL NOTES.—The rotation followed on these plots is corn, soybeans, and wheat with sweet-clover seeding. In the three-year rotation the sweet clover is not allowed to stand over the next year, but is plowed for corn the year after seeding. In the four-year rotation the sweet clover is allowed to stand over as a regular crop, to be followed by corn. All residues produced are returned to the land, and limestone at the rate of 1,000 pounds per acre per year and steamed bone meal at the rate of 200 pounds per acre per year are applied for the wheat.

[1]Cowpeas. [2]Not harvested. [3]Oats; wheat destroyed by grasshoppers. [4]No yields; sweet clover plowed under.

TABLE 50.—OQUAWKA FIELD: CROP YIELDS IN SOIL EXPERIMENTS
DUNE SAND; TERRACE

Plot No.	Soil treatment applied	1914[1] Corn	1915 Soybeans[2]	1916 Wheat	1917 Sweet clover
		Bushels or (tons) per acre			
101	0	25.3	(1.16)	10.4	(0.0)
102	M	21.0	(1.24)	13.1	(0.0)
103	ML	17.1	(1.38)	12.8	(1.03)
104	MLP	23.5	(1.53)	14.2	(1.47)
105	0	22.7	8.2	14.3	0.0
106	R	24.6	8.5	13.1	0.0
107	RL	21.9	9.3	12.2	1.39
108	RLP	24.1	10.0	15.8	1.48
109	RLPK	26.6	11.7	10.2	2.52
110	0	19.2	(1.21)	8.5	(0.0)
		Rye	Corn	Soybeans	Wheat
201	0	6.8	5.0	(.28)	0
202	M	6.5	11.8	(.31)	0
203	ML	6.7	14.6	(.48)	0
204	MLP	7.4	14.0	(.57)	0
205	0	7.0	7.1	1.0	0
206	R	6.6	12.9	1.4	0
207	RL	6.2	9.2	2.2	0
208	RLP	6.4	12.1	1.8	0
209	RLPK	4.9	8.3	2.0	0
210	0	6.2	3.5	(.22)	0
		Cowpeas	Rye[2]	Corn	Soybeans
301	0	(.50)	23.9	14.5	(1.48)
302	M	(.54)	21.0	12.7	(1.62)
303	ML	(.54)	20.7	13.2	(1.70)
304	MLP	(.55)	23.4	13.0	(1.56)
305	0	3.5	19.1	11.8	7.0
306	R	3.6	21.2	13.0	4.3
307	RL	4.8	21.7	12.6	8.2
308	RLP	4.5	21.8	12.1	8.2
309	RLPK	4.3	21.6	12.1	9.6
310	0	3.9	18.6	7.5	(1.18)
		Wheat	Cowpeas[2]	Rye[2]	Corn
401	0	6.2	(1.28)	21.2	24.6
402	M	5.4	(1.44)	23.2	30.8
403	ML	6.0	(1.51)	25.0	32.4
404	MLP	7.8	(1.53)	26.3	34.1
405	0	7.2	7.8	19.1	24.2
406	R	7.9	7.9	21.1	26.1
407	RL	7.1	8.3	22.0	28.5
408	RLP	5.8	8.7	21.9	24.2
409	RLPK	6.8	9.4	21.1	24.9
410	0	7.0	(1.22)	17.4	21.0

[1]Lime only. [2]No manure.

TABLE 50.—OQUAWKA FIELD, *Concluded*

Plot No.	Soil treatment applied	1914 Soybeans	1915 Wheat	1916 Cowpeas	1917 Rye
		Bushels or (tons) per acre			
501	0	(.21)	4.8	(.46)	11.2
502	M	(.22)	6.2	(.40)	13.5
503	ML	(.22)	10.1	(.45)	14.9
504	MLP	(.23)	10.9	(.43)	12.9
505	0	.7	4.6	2.0	12.1
506	R	.8	8.3	2.2	17.2
507	RL	.8	8.2	.6	17.8
508	RLP	.8	11.5	.3	18.2
509	RLPK	1.2	10.1	.3	18.8
510	0	(.22)	8.2	(.40)	14.9

GENERAL NOTES.—The rotation consists of corn with catch crop of sand vetch on residue plots, soybeans, wheat, sweet clover, and rye, with catch crop of alsike and sweet clover seeded on residue plots. The soil treatment is standard, as described in the introduction. A sixth series is included in this field, on which alfalfa is being started.

TABLE 51.—PANA FIELD: CROP YIELDS IN SOIL EXPERIMENTS (See Note to Table 52); MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912[1] Oats	1913 Clover[2]	1914 Wheat[3]	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre					
101	0	....	(.55)	41.8	20.7	53.6	(2.30)
102	M	....	(.44)	40.7	26.8	51.6	(2.45)
103	ML	....	(.38)	42.1	27.7	58.9	(2.19)
104	MLP	....	(.43)	42.7	27.6	55.8	(2.21)
105	0	....	.50	39.7	24.2	51.6	.58
106	R	....	1.08	41.1	24.1	50.6	.68
107	RL	....	.92	43.3	28.0	57.2	.50
108	RLP	....	.58	41.8	25.8	53.3	.67
109	RLPK	....	.92	42.1	28.9	55.0	.83
110	0	....	(.38)	39.3	23.8	52.2	(2.33)
111	CvM	....	(.38)	39.2	23.0	54.7	(2.10)
112	CvML	....	(.34)	39.4	27.4	50.3	(2.05)
113	CvMLP	....	(.41)	33.9	30.7	56.1	(2.46)
114	CvMP	....	(.46)	39.8	25.6	60.5	(2.28)
115	0	....	(.71)	31.5	30.7	56.1	(2.13)
116	0	....	(.63)	36.2	31.1	46.1	(2.19)
		Corn	Oats[3]	Clover[3]	Wheat[3]	Corn	Oats
201	0	23.6	11.1	(.41)	26.1	21.8	83.8
202	M	24.0	11.1	(.40)	29.2	18.9	79.2
203	ML	21.0	11.4	(.57)	34.2	21.0	96.7
204	MLP	21.3	11.7	(.67)	34.8	22.2	90.6
205	0	24.2	11.4	.33	29.5	13.8	90.5
206	R	26.4	10.6	.83	31.8	20.5	93.8
207	RL	26.3	11.4	1.17	33.5	31.7	94.8
208	RLP	27.9	12.0	1.33	36.0	31.4	98.0
209	RLPK	27.6	11.4	1.50	36.3	35.2	98.6
210	0	28.8	13.4	(.81)	36.4	21.2	88.1
211	CvM	28.7	9.5	(.93)	36.1	19.8	99.4
212	CvML	25.9	12.3	(1.04)	35.4	27.8	94.7
213	CvMLP	31.0	10.6	(1.32)	36.2	31.3	99.5
214	CvMP	31.5	10.2	(1.08)	35.5	27.1	100.8
215	0	30.1	8.4	(.93)	37.9	28.8	91.9
216	0	26.3	11.7	(.83)	38.7	26.3	91.9

[1]No soil treatment; oat yields not taken. [2]No organic manure. [3]No manure.

TABLE 51.—PANA FIELD, *Concluded*

Plot No.	Soil treatment applied	1912[1] Oats	1913 Corn	1914 Oats	1915 Clover	1916 Wheat	1917 Corn
		Bushels or (tons) per acre					
301	0	....	29.5	10.2	(2.87)	12.6	44.9
302	M	....	28.4	6.7	(3.43)	12.9	47.5
303	ML	....	28.9	10.2	(3.75)	14.0	49.5
304	MLP	....	33.7	4.5	(3.43)	8.0	44.7
305	0	....	28.6	4.5	1.67	7.5	35.9
306	R	....	31.8	6.4	1.67	10.8	48.0
307	RL	....	34.4	8.1	1.58	11.3	49.3
308	RLP	....	34.0	11.2	1.83	10.0	53.5
309	RLPK	....	35.3	10.0	1.75	17.1	54.7
310	0	....	29.7	10.5	(3.80)	8.4	47.2
311	CvM	....	21.8	12.0	(3.91)	17.8	52.4
312	CvML	....	24.5	11.7	(3.79)	9.2	51.4
313	CvMLP	....	21.5	11.7	(3.58)	12.0	50.0
314	CvMP	....	19.9	10.5	(3.96)	11.1	42.2
315	0	....	25.8	6.4	(3.69)	9.8	42.7
316	0	....	26.1	6.4	(3.62)	13.3	43.6
		Soybeans	Wheat[3]	Corn	Oats	Clover	Wheat
401	0	(1.52)	19.7	17.1	41.1	(1.01)	11.8
402	M	(1.67)	16.5	15.4	51.1	(1.40)	12.2
403	ML	(1.44)	17.7	17.0	55.0	(2.44)	25.8
404	MLP	(1.41)	15.0	13.5	55.9	(2.38)	32.8
405	0	9.0	11.9	10.7	55.9	1.58	13.0
406	R	11.5	16.6	12.2	37.8	2.25	20.7
407	RL	8.4	17.6	24.7	64.2	2.42	31.7
408	RLP	11.3	23.4	28.9	61.1	2.08	44.2
409	RLPK	9.3	21.2	28.4	70.5	2.00	38.7
410	0	(1.70)	24.8	21.6	59.2	(2.27)	12.2
411	CvM	(1.54)	24.2	24.5	66.7	(2.21)	22.2
412	CvML	(1.59)	21.8	21.9	56.9	(2.66)	26.6
413	CvMLP	(1.64)	25.3	23.3	68.1	(2.51)	36.5
414	CvMP	(1.59)	14.2	19.4	54.1	(2.14)	35.2
415	0	(1.58)	20.1	17.0	63.3	(1.82)	13.5
416	0	(1.44)	15.7	18.1	55.6	(1.54)	12.6
			Alfalfa[4]	Alfalfa[4]	Alfalfa[4]	Alfalfa[4]	Alfalfa[4]
501	0		....	....	(1.88)	....	(.16)
502	M		....	....	(1.59)	....	(.60)
503	ML		....	....	(3.46)	....	(2.55)
504	MLP		....	....	(3.73)	....	(2.62)
505	0		....	....	(1.87)	....	(.38)
506	R		....	....	(1.92)	....	(.51)
507	RL		....	....	(3.41)	....	(2.68)
508	RLP		....	....	(3.89)	....	(3.39)
509	RLPK		....	....	(4.10)	....	(3.45)
510	0		....	....	(2.50)	....	(.41)
511	CvM		....	....	(2.74)	....	(.35)
512	CvML		....	....	(3.47)	....	(2.46)
513	CvMLP		....	....	(3.70)	....	(2.99)
514	CvMP		....	....	(2.63)	....	(.04)
515	0		....	....	(1.69)	....	(.00)
516	0		....	....	(1.93)	....	(.00)

[1]No soil treatment; oat yields not taken. [3]No manure. [4]No cover crop; no manure or residues on Plots 2 to 9, but 15 tons per acre of manure was applied to Plots 11 to 14 in 1912. Alfalfa winter-killed in 1913, 1914, and 1916.

TABLE 52.—PANA FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 5 crops	Oats 4 crops	Wheat 4 crops[1]	Clover 4 crops[1]
1	0	26.8	47.2	23.1	(1.65)
2	M	27.4	47.1	23.8	(1.92)
3	ML	28.8	55.2	29.0	(2.24)
4	MLP	28.3	51.7	29.6	(2.17)
5	0	22.6	50.6	22.4	1.04
6	R	27.3	47.1	26.1	1.35
7	RL	33.6	55.9	30.0	1.42
8	RLP	34.7	55.7	33.0	1.48
9	RLPK	36.5	58.5	33.6	1.52
10	0	28.7	52.5	24.1	(2.30)
11	CvM	28.3	58.2	28.8	(2.29)
12	CvML	30.6	53.4	27.7	(2.39)
13	CvMLP	31.4	58.9	27.1	(2.47)
14	CvMP	26.8	56.5	30.4	(2.37)
15	0	29.0	54.2	23.2	(2.14)
16	0	29.0	50.0	25.2	(4.04)

GENERAL NOTES.—The rotation practiced is that of wheat with legume cover crops on the residue plots, corn, oats, and clover. Alfalfa is grown on a fifth field for five years after which it is rotated with the other crops. The soil treatment is standard, as described in the introduction. The soil is black silt loam on clay on Series 100 and 200 and most of 300, and brown-gray silt loam on tight clay on Series 400 and 500.

[1]No manure on 1914 wheat or clover, nor on 1915 wheat.

TABLE 53.—RALEIGH FIELD: CROP YIELDS IN SOIL EXPERIMENTS YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1910[1] Wheat	1911 Corn	1912 Oats	1913 Clover[3]	1914 Wheat	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre							
101	0.....	9.5	28.0	11.9	(.22)	11.8	21.4	10.8	(.76)
102	M.....	6.9	41.0	15.2	(.23)	10.9	35.1	11.2	(.94)
103	ML.....	9.8	45.8	23.4	(.72)	27.5	57.2	12.0	(1.25)
104	MLP....	11.6	46.7	22.7	(.68)	26.8	52.3	14.7	(1.57)
105	0.....	7.3	24.9	14.1	.02	9.4	21.8	10.9	3.5
106	R.....	9.0	24.4	12.8	.02	9.2	24.4	11.4	5.7
107	RL.....	11.0	36.8	20.9	.08	25.1	43.5	10.6	10.4
108	RLP....	10.7	31.1	23.0	.01	27.2	42.0	14.7	12.9
109	RLPK...	12.7	39.5	25.8	.03	30.0	47.2	16.7	9.4
110	0.....	5.7	17.8	8.1	.01	7.2	22.3	9.2	(.67)

		Cowpeas	Wheat[2]	Corn	Oats	Soybeans	Wheat[3]	Corn	Oats
201	0.....	(.86)	12.1	20.5	.6	(.28)	...	22.9	17.5
202	M.....	(.75)	12.7	36.5	2.0	(.30)	...	34.9	23.3
203	ML.....	(1.38)	17.5	55.1	3.1	(.26)	...	45.0	36.1
204	MLP....	(1.35)	19.0	53.9	3.0	(.23)	...	43.2	36.7
205	0.....	(.71)	9.5	20.4	1.7	(.27)	...	23.6	20.3
206	R.....	...	12.3	29.9	2.0	2.5	...	24.7	25.9
207	RL.....	...	19.9	45.2	4.4	2.5	...	40.1	42.0
208	RLP....	...	22.7	55.1	5.2	2.7	...	45.6	44.8
209	RLPK...	...	22.8	56.5	7.2	1.8	...	46.8	47.7
210	0.....	(1.09)	14.7	25.2	2.7	.7	...	30.0	30.2

		Oats	Clover[2]	Wheat[2]	Corn	Oats	Soybeans	Wheat	Corn
301	0.....	18.1	(.44)	3.4	5.7	2.5	1.1	.8	24.4
302	M.....	17.3	(.43)	2.3	12.9	5.0	(1.81)	1.8	44.7
303	ML.....	26.8	(.61)	7.1	17.2	8.1	(2.16)	7.8	57.5
304	MLP....	26.0	(.68)	7.8	17.1	7.8	(2.30)	9.8	58.9
305	0.....	15.0	(.23)	2.0	4.5	2.0	1.0	.2	25.7
306	R.....	20.9	...	2.8	9.4	4.1	.8	.7	19.9
307	RL.....	25.1	...	7.4	17.5	9.5	3.4	6.7	45.1
308	RLP....	25.1	...	9.9	17.9	11.2	3.9	7.7	41.1
309	RLPK...	29.3	...	14.1	15.9	10.3	3.9	6.6	63.4
310	0.....	22.9	...	4.7	7.4	5.0	.4	1.8	35.1

		Corn	Oats[2]	Cowpeas[2]	Wheat[2]	Corn	Oats	Clover	Wheat
401	0.....	24.1	25.6	(1.44)	6.2	7.6	9.7	(.56)	6.3
402	M.....	18.1	19.2	(1.05)	4.2	13.2	8.9	(.89)	7.8
403	ML.....	40.1	38.0	(2.79)	20.7	16.3	23.6	(1.44)	41.2
404	MLP....	37.4	35.5	(2.56)	23.8	14.1	24.7	(1.98)	39.2
405	0.....	24.9	18.4	(.93)	6.4	8.5	9.8	([4])	11.2
406	R.....	31.1	24.1	...	8.5	10.7	12.8	([4])	15.2
407	RL.....	42.8	38.6	...	29.8	14.4	23.1	([4])	37.2
408	RLP....	44.5	35.3	...	32.9	16.4	22.5	([4])	40.5
409	RLPK...	43.0	32.8	...	29.8	16.4	20.8	([4])	46.4
410	0.....	26.8	25.0	...	4.7	4.6	7.5	(.83)	5.3

[1]No manure or residues. [2]No manure. [3]Crop destroyed by hailstorm. [4]Seed lost before recleaning.

TABLE 54.—RALEIGH FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 7 crops	Oats 6 crops	Wheat 4 crops	Clover 2 crops
1	0	18.6	8.8	4.7	(.39)
2	M	31.2	10.9	5.1	(.56)
3	ML	42.0	17.7	19.1	(1.08)
4	MLP	40.9	18.3	19.0	(1.33)
5	0	18.5	9.8	5.2	.02[1]
6	R	20.5	11.5	6.3	.02[1]
7	RL	34.7	18.4	17.2	.08[1]
8	RLP	35.6	20.2	18.9	.01[1]
9	RLPK	40.8	21.4	20.8	.03[1]
10	0	20.3	10.4	3.7	(.42)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

[1]One crop only.

TABLE 55.—ROCKFORD FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; IOWAN GLACIATION

Plot No.	Soil treatment applied	1904 Corn[1]	1905 Corn[2]	1906 Oats[3]	1907 Clover[3]	1908 Corn	1909 Corn	1910 Oats	1911 Soy-beans	1912 Corn	1913 Corn	1914 Oats	1915 Clover	1916 Corn	1917 Corn
		Bushels or (tons) per acre													
101	L	64.7	65.1	53.7	(1.95)	63.4	47.0	67.5	17.3	49.4	41.0	52.8	(3.18)	42.8	24.6
102	RL	60.0	61.7	56.6	(1.95)	59.6	53.0	68.1	19.3	52.2	46.8	60.0	.33	52.0	44.4
103	ML	72.2	60.5	51.9	(1.94)	72.8	59.4	72.5	17.2	78.0	48.8	57.8	(3.69)	65.8	50.6
104	MLCv	67.5	61.9	51.6	(1.96)	70.0	58.4	73.8	16.8	78.0	46.2	47.5	(3.78)	65.6	51.0
105	L	65.6	63.9	48.7	(1.86)	60.6	52.0	67.5	20.2	59.4	36.8	40.6	(3.00)	43.4	21.2
106	LP	69.6	69.3	58.1	(2.36)	79.4	58.8	78.1	22.0	58.8	37.6	60.3	(3.97)	45.8	27.0
107	RLP	73.3	62.4	51.9	(2.36)	77.6	66.4	73.1	26.5	60.6	45.0	58.1	.33	60.6	50.4
108	MLP	70.6	69.2	53.7	(2.35)	86.2	64.6	80.6	22.7	78.0	49.6	58.1	(4.27)	69.4	57.6
109	CvMLP	62.8	63.7	50.6	(2.38)	84.0	65.4	80.0	23.3	75.2	49.4	55.6	(4.46)	68.6	51.8
110	L	65.6	58.4	47.8	(1.80)	63.2	51.6	72.2	20.7	40.4	37.2	52.5	(3.27)	42.0	22.6
111	LPK	69.5	65.9	49.4	(2.51)	81.2	68.8	74.1	24.2	68.4	47.2	56.2	(4.27)	62.0	49.2
112	RLPK	68.0	62.9	50.3	(2.46)	76.2	71.4	74.7	25.0	63.2	52.2	60.9	.17	57.8	78.2
113	MLPK	66.1	65.7	47.8	(2.45)	85.4	68.0	77.9	23.2	70.2	48.6	54.4	(4.46)	63.0	59.6
114	CvMLPK	65.4	62.8	53.7	(2.55)	82.2	69.2	84.4	22.2	70.8	47.8	55.6	(4.68)	63.8	50.8
115	L	65.5	61.3	45.0	(2.06)	65.2	51.8	68.4	21.3	45.6	37.4	47.5	.33	53.8	25.8
116	R	65.5	64.3	49.4	(2.25)	57.2	65.2	78.4	24.2	51.0	46.0	53.1	.33	56.0	42.2
117	RP	67.8	61.9	53.1	(2.35)	75.0	65.8	75.3	23.0	55.4	50.6	64.4	.17	68.6	51.8
118	RPK	65.9	66.0	52.8	(2.43)	79.0	72.4	83.4	21.7	61.4	48.6	60.9	.17	49.0	54.2
119	RLNPK	71.3	72.1	78.1	(2.35)	80.4	72.8	89.7	23.7	71.8	49.2	56.9	.33	58.0	70.8
120	0	65.4	62.4	47.2	(1.26)	63.6	45.0	72.5	18.8	37.8	37.8	47.8	(2.00)	44.4	22.4

TABLE 55.—ROCKFORD FIELD, *Continued*

Plot No.	Soil treatment applied	1904 Corn[1]	1905 Oats[2]	1906 Clover[3]	1907 Corn	1908 Corn	1909 Oats	1910 Clover	1911 Corn	1912 Corn	1913 Oats	1914 Clover	1915 Corn	1916 Corn	1917 Oats
		Bushels or (tons) per acre													
201	L	62.9	82.5	(1.09)	67.8	55.2	85.3	(1.60)	64.2	61.0	43.8	(4.27)	28.2	42.6	81.6
202	RL	61.8	78.4	(.84)	67.3	51.2	90.3	...	68.8	65.8	49.1	.33	36.2	48.0	76.9
203	ML	69.2	75.3	(.82)	78.4	66.2	88.8	(1.64)	81.6	69.2	49.1	(4.36)	50.6	53.4	88.4
204	CvML	69.4	77.2	(1.07)	75.5	64.8	90.9	(1.75)	80.0	68.6	47.8	(2.59)	45.0	51.2	90.0
205	L	65.3	77.5	(1.13)	69.6	55.8	83.4	(1.80)	72.4	54.4	41.9	(4.11)	28.0	39.2	86.9
206	LP	62.4	78.4	(1.40)	72.9	61.6	95.6	(2.13)	74.0	62.6	51.2	(4.18)	32.4	35.6	99.1
207	RLP	61.2	70.9	(1.25)	71.9	63.6	84.7	...	78.6	71.6	52.8	.17	46.2	49.8	87.5
208	MLP	69.6	82.2	(1.35)	81.2	73.6	95.6	(2.08)	81.4	67.3	50.6	(4.20)	53.4	55.4	93.1
209	CvMLP	68.0	80.0	(1.35)	80.4	69.6	90.3	(2.11)	79.8	70.4	50.6	(2.65)	50.2	51.4	100.3
210	L	65.2	80.3	(1.26)	71.5	51.8	86.3	(1.51)	73.4	49.6	42.2	(4.03)	22.0	36.8	82.2
211	LPK	63.8	82.2	(1.42)	81.5	69.6	85.3	(2.17)	81.8	69.0	49.7	(4.59)	42.4	54.0	91.9
212	RLPK	64.7	77.2	(1.33)	78.7	68.4	84.7	...	79.8	75.0	50.0	.17	44.8	53.6	82.2
213	MLPK	66.8	73.1	(1.26)	83.3	80.0	80.3	(2.26)	84.2	73.6	50.0	(4.55)	51.4	58.8	78.1
214	CvMLPK	70.8	75.9	(1.44)	84.7	79.0	90.9	(2.37)	86.0	71.2	50.3	(2.64)	53.4	52.4	95.6
215	L	72.5	78.1	(1.39)	76.6	58.8	85.6	(1.93)	72.0	51.8	43.8	.17	35.2	44.6	82.2
216	R	66.1	75.9	(1.34)	69.4	59.0	84.4	...	78.4	68.4	47.5	.50	33.6	46.4	80.3
217	RP	65.2	73.4	(1.33)	74.9	67.2	81.9	...	78.0	67.4	52.5	.83	38.0	46.6	89.1
218	RPK	64.2	77.5	(1.34)	77.0	72.8	90.6	...	76.2	71.0	54.7	.50	40.0	53.4	83.8
219	RLNPK	70.1	83.4	(1.62)	76.1	70.2	86.6	...	78.4	75.2	59.4	.50	46.2	55.2	80.9
220	0	62.4	79.4	(.99)	63.5	53.0	83.4	(1.17)	68.8	49.2	49.7	(3.12)	4.0	32.8	93.8

GENERAL NOTES.—The rotation consists of corn, corn, oats and clover. Soybeans are seeded in the corn as a cover crop. The soil treatment applied is standard as described in the introduction, with the exception that limestone was first applied in 1906 at the rate of 1300 pounds per acre, no further applications being made until 1913, when they became standard. Beginning with 1914, the cover crop was omitted on Plots 4, 9, and 14 and the second cutting of clover was harvested for seed and 1 bushel of seed counted equivalent to 1 ton of hay in yields reported. The seed yields were .17 bushel per acre from each of these plots in 1914 and from Plot 9 in 1917; and, in 1916, 1 bushel from Plot 4, 1.33 from Plot 9, and 1.67 from Plot 14.

[1]No lime, residues, manure, or cover crop. [2]No lime or manure. [3]No manure.

TABLE 55.—ROCKFORD FIELD, *Continued*

Plot No.	Soil treatment applied	1904 Oats[1]	1905 Soybeans[1]	1906 Corn	1907 Corn	1908 Oats	1909 Clover	1910 Corn	1911 Corn	1912 Oats	1913 Clover	1914 Corn	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre													
301	L	59.7	(1.99)	84.4	49.4	40.3	(1.35)	55.0	52.0	57.8	(2.95)	69.2	27.6	83.4	(1.28)
302	RL	60.8	(2.04)	82.0	51.8	40.3	1.66	57.6	66.0	75.0	2.33	81.6	40.2	81.9	.50
303	ML	60.6	(2.07)	93.7	55.6	41.6	(1.76)	67.6	64.8	67.5	(3.48)	92.8	48.2	92.5	(2.18)
304	CvML	58.1	(1.81)	83.5	52.9	38.1	(1.98)	69.4	60.0	76.9	(3.53)	92.0	48.4	93.4	(1.80)
305	L	55.6	(1.62)	77.5	44.7	33.1	(1.46)	56.0	47.2	61.9	(3.12)	73.6	24.2	78.8	(.87)
306	LP	53.8	(1.88)	77.4	45.7	33.8	(1.59)	59.8	56.2	72.8	(3.60)	81.2	26.4	94.1	(1.20)
307	RLP	57.0	(1.88)	78.4	48.4	35.0	.48	63.0	69.6	71.3	1.83	88.4	38.0	84.4	.33
308	MLP	55.8	(1.87)	88.6	52.5	35.0	(2.07)	67.0	68.0	77.8	(3.91)	95.2	49.6	90.3	(2.60)
309	CvMLP	58.9	(1.87)	85.6	54.3	35.3	(2.07)	68.0	66.4	70.9	(3.87)	93.6	49.0	91.6	(2.22)
310	L	60.3	(1.66)	74.9	42.9	33.1	(1.40)	54.4	48.4	60.9	(2.98)	73.4	21.2	79.4	(.76)
311	LPK	58.8	(1.84)	84.9	46.4	35.9	(2.09)	66.8	69.8	69.7	(3.97)	94.4	39.4	79.7	(2.37)
312	RLPK	58.3	(1.96)	81.0	49.3	36.3	.50	69.0	72.4	75.0	1.83	99.6	44.6	82.8	.33
313	MLPK	60.3	(1.97)	84.9	50.1	32.2	(2.37)	67.0	74.6	72.2	(4.03)	88.6	48.2	89.4	(2.87)
314	CvMLPK	61.2	(2.09)	85.2	53.2	33.8	(2.52)	69.0	70.2	74.4	(4.20)	88.0	47.4	89.7	(2.70)
315	L	58.6	(1.96)	81.9	46.7	31.6	(1.70)	62.4	53.6	65.0	2.83	72.4	30.4	80.0	0.0[4]
316	R	59.6	(2.00)	82.0	53.3	33.1	1.24	65.0	68.0	75.0	2.33	87.4	40.4	85.6	.33
317	RP	56.3	(2.26)	87.1	58.3	37.8	1.83	66.6	68.2	73.4	2.17	89.6	40.2	81.9	.33
318	RPK	57.5	(2.32)	93.5	60.6	36.9	2.04	69.4	68.4	77.2	1.83	89.4	43.4	83.8	0.0
319	RLNPK	73.4	(2.62)	96.6	62.5	44.7	1.60	67.6	72.0	74.1	2.00	92.0	49.0	61.0	0.0
320	0	54.1	(1.87)	81.4	43.9	40.9	(2.39)	59.2	51.4	68.4	(3.68)	71.2	23.4	72.8	0.0[4]

TABLE 55.—ROCKFORD FIELD, *Concluded*

Plot No.	Soil treatment applied	1904 Timothy[1]	1905 Corn[1]	1906 Corn[3]	1907 Oats[3]	1908 Clover[3]	1909 Corn	1910 Corn	1911 Oats	1912 Soybeans	1913 Corn	1914 Corn	1915 Oats	1916 Clover	1917 Corn
		Bushels or (tons) per acre													
401	L	(1.65)	67.3	60.8	34.4	(2.06)	60.6	38.6	60.0	9.3	36.2	47.0	70.0	(1.77)	29.8
402	RL	(1.66)	64.0	54.6	33.8	(2.10)	64.2	49.6	60.6	10.5	44.6	72.4	73.4	.33	48.8
403	ML	(1.65)	69.1	63.6	33.8	(2.22)	81.6	46.0	69.4	10.5	51.4	72.0	86.2	(2.30)	59.2
404	CvML	(1.59)	60.8	61.0	33.8	(2.13)	78.0	46.6	58.8	10.7	49.2	72.6	86.6	(2.70)	60.4
405	L	(1.59)	70.3	65.2	33.1	(2.09)	66.0	49.0	60.6	9.0	41.2	47.8	73.8	(2.13)	29.6
406	LP	(1.44)	70.8	67.9	36.6	(2.19)	69.6	33.6	58.8	11.3	40.2	53.2	87.8	(2.44)	40.6
407	RLP	(1.52)	70.7	71.0	39.4	(2.27)	73.4	41.2	64.1	10.7	45.8	80.2	65.6	.50	51.4
408	MLP	(1.47)	70.7	71.4	34.7	(1.95)	86.0	48.4	60.3	12.7	52.0	86.4	88.4	(2.80)	65.2
409	CvMLP	(1.45)	66.4	72.1	38.8	(2.15)	83.8	41.2	69.4	14.2	45.6	87.4	90.9	(3.08)	68.6
410	L	1.47)	67.6	66.0	33.1	(2.13)	68.2	38.2	60.3	11.2	37.4	55.4	71.9	(2.51)	32.4
411	LPK	(1.57)	68.9	73.8	38.4	(2.23)	85.2	43.4	69.7	12.2	51.0	82.8	78.8	(2.99)	54.8
412	RLPK	(1.53)	73.1	67.0	40.6	(2.20)	85.2	49.8	70.9	9.5	45.6	85.4	78.4	1.17	60.4
413	MLPK	1.43)	68.3	65.4	37.5	(2.21)	86.4	63.8	71.3	11.7	47.2	89.4	85.0	(3.66)	57.0
414	CvMLPK	(1.41)	69.9	67.9	38.8	(2.21)	87.2	51.8	72.8	10.3	56.4	90.8	82.8	(3.87)	62.6
415	L	(1.62)	68.8	66.3	34.1	(2.18)	69.2	45.0	61.6	11.0	41 2	58.2	74.1	.33[4]	35.4
416	R	(1.65)	66.9	64.1	34.7	(2.24)	68.6	50.6	70.6	12.7	43.0	77.4	73.4	1.00	46.2
417	RP	(1.62)	65.3	71.0	40.3	(2 26)	75.2	49.0	70.3	11.0	47.6	73.6	78.1	1.33	53.0
418	RPK	(1.45)	63.2	66.3	38.8	(2.04)	83.6	49.8	71.3	8.2	47.4	83.2	73.4	.67	52.2
419	RLNPK	(2.46)	69.3	83.0	43.8	(2.27)	83.8	55.2	66.9	7.3	49.0	92.8	82.2	.50	55.8
420	0	(1.40)	54.7	47.6	31.3	(2.07)	59.0	35.6	66.9	13.0	39.4	52.4	67.2	(2.00)[4]	25.8

[1]No lime, residues, manure or cover crop. [2]No lime or manure. [3]No manure. [4]Estimated and yields of Plots 15 and 20 exchanged.

TABLE 56.—ROCKFORD FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 23 crops	Oats 10 crops	Clover 7 crops	Soybeans 2 crops
1	L	49.4	64.2	(2.34)	13.3
2	RL	56.7	67.6	.78	14.9
3	ML	65.5	71.4	(2.77)	13.9
4	CvML	63.8	70.4	(2.59)	13.8
5	L	49.9	62.9	(2.36)	14.6
6	LP	53.5	73.2	(2.73)	16.7
7	RLP	61.7	67.7	.52	18.6
8	MLP	68.5	73.0	(3.13)	17.7
9	CvMLP	66.9	73.5	(2.92)	18.8
10	L	48.2	64.1	(2.35)	16.0
11	LPK	65.0	69.1	(3.21)	18.2
12	RLPK	67.0	69.6	.60	17.2
13	MLPK	68.8	69.1	(3.60)	17.4
14	CvMLPK	68.4	73.0	(3.28)	16.2
15	L	52.8	64.0	1.32	16.1
16	R	58.9	68.1	.82	18.4
17	RP	62.9	70.5	.95	17.0
18	RPK	65.0	71.6	.74	15.0
19	RLNPK	68.7	70.2	.70	15.5
20	0	46.3	66.3	(2.05)	15.9

TABLE 57.—SIDELL FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1912[1] Oats	1913 Clover[2]	1914 Wheat[2]	1915 Corn	1916 Oats	1917 Soy-beans
		Bushels or (tons) per acre					
101	0	30.0	(1.11)	34.0	48.1	56.9	(1.74)
102	M	32.0	(1.14)	34.0	54.8	63.9	(1.88)
103	ML	42.7	(1.30)	31.2	58.5	61.4	(1.88)
104	MLP	34.1	(1.04)	36.9	71.2	66.1	(1.82)
105	0	47.2	1.00	33.2	47.5	50.2	(1.23)
106	R	50.0	.83	34.8	47.6	51.1	....
107	RL	46.4	.92	34.9	52.1	54.2	....
108	RLP	44.8	.83	38.8	52.5	56.9	....
109	RLPK	38.4	1.00	41.2	51.4	57.2	....
110	0	49.8	(1.31)	30.5	48.0	54.5	(1.44)
		Corn	Oats[2]	Soy-beans[2]	Wheat[2]	Corn	Oats
201	0	48.4	3.4	12.2	10.8	28.9	80.6
202	M	39.7	2.7	(1.58)	7.2	31.6	80.3
203	ML	39.5	2.7	(1.67)	6.2	31.9	80.5
204	MLP	40.7	3.0	(1.57)	7.2	33.1	84.5
205	0	38.7	2.3	11.0	7.5	25.9	74.1
206	R	42.7	1.9	11.4	6.7	34.7	75.2
207	RL	24.8	2.7	10.0	6.2	33.6	73.6
208	RLP	42.6	2.3	9.2	6.9	34.8	76.9
209	RLPK	42.7	3.0	8.6	6.7	35.3	73.0
210	0	43.2	3.1	9.2	5.5	24.9	65.2
		Oats	Corn	Oats	Soy-beans	Wheat	Corn
301	0	52.5	40.9	46.2	(1.42)	24.6	65.1
302	M	53.7	34.6	44.5	(1.20)	17.1	66.6
303	ML	52.0	33.3	42.5	(1.30)	10.4	63.3
304	MLP	53.6	35.5	44.5	(1.22)	14.9	59.8
305	0	55.0	28.8	37.7	17.4	9.0	47.1
306	R	53.6	31.9	38.3	15.6	7.0	49.4
307	RL	51.2	33.4	36.1	15.0	4.3	53.0
308	RLP	48.8	32.4	35.2	16.7	9.0	68.0
309	RLPK	50.0	31.8	43.0	17.8	9.9	67.8
310	0	47.2	28.4	40.8	(1.15)[3]	8.8	43.1
		Soy-beans	Wheat[2]	Corn	Oats	Clover	Wheat
401	0	(2.42)	38.1	47.6	63.6	(2.75)	34.2
402	M	(2.26)	34.9	45.7	69.2	(2.70)	42.2
403	ML	(2.14)	37.5	43.8	73.6	(2.69)	34.8
404	MLP	(1.77)	34.2	46.4	74.2	(2,43)	37.2
405	0	12.5	28.8	37.5	68.1	2.67	34.8
406	R	12.0	27.0	41.0	62.0	2.58	33.8
407	RL	12.9	24.9	42.6	61.6	2.75	29.6
408	RLP	10.8	24.8	41.6	63.4	3.08	36.2
409	RLPK	13.3	22.4	43.7	62.2	2.92	32.9
410	0	(1.54)	20.1	33.9	67.5	(2.23)	28.2

[1]No soil treatment. [2]No manure. [3]Estimated.

TABLE 57.—SIDELL FIELD, *Concluded*

Plot No.	Soil treatment applied	1912	1913 Alfalfa[4]	1914 Alfalfa[4]	1915 Alfalfa[4]	1916 Alfalfa[4]	1917 Alfalfa[4]
		Bushels or (tons) per acre					
501	0	....	(2.92)	(3.78)	(4.06)	(2.50)	(4.20)
502	M	....	(3.20)	(4.62)	(4.34)	(2.73)	(4.28)
503	ML	....	(3.78)	(4.20)	(4.17)	(2.68)	(3.80)
504	MLP	....	(4.20)	(4.49)	(4.13)	(3.24)	(4.55)
505	0	....	(1.44)	(3.23)	(3.67)	(2.55)	(3.47)
506	R	....	(1.17)	(3.14)	(3.65)	(2.73)	(3.29)
507	RL	....	(1.83)	(3.42)	(3.36)	(2.37)	(3.07)
508	RLP	....	(3.06)	(3.85)	(4.07)	(2.68)	(4.00)
509	RLPK	....	(3.50)	(4.49)	(4.79)	(2.83)	(4.16)
510	0	....	(1.22)	(3.51)	(3.84)	(2.33)	(2.68)

[4]No residues.

TABLE 58.—SIDELL FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats 4 crops	Wheat 4 crops[1]	Clover 1 crop	Soybeans 3 crops
1	0	46.1	61.8	25.9	(2.75)	(1.64)
2	M	46.7	64.5	25.1	(2.70)	(1.55)
3	ML	46.2	64.5	20.7	(2.69)	(1.62)
4	MLP	49.2	67.3	24.0	(2.43)	(1.54)
5	0	37.4	57.5	21.1	2.67	13.6
6	R	40.9	56.7	20.6	2.58	9.0
7	RL	43.0	56.4	18.8	2.75	8.3
8	RLP	45.9	58.1	22.7	3.08	8.6
9	RLPK	46.0	58.9	22.7	2.92	8.8
10	0	35.7	57.0	18.2	(2.23)	(1.31)

GENERAL NOTES.—The crop rotation and soil treatment are standard, as described in the introduction, with the exception that alfalfa is grown on a fifth field, which after producing alfalfa for five years will be thrown into the regular rotation. (The natural productiveness of this field decreases from Plot 1 to Plot 10.)

[1]No manure on 1914 and 1915 wheat.

TABLE 59.—SPARTA FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

LIGHT-GRAY SILT LOAM ON TIGHT CLAY, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1916 Corn[1]	1917 Soybeans[3]
		Bushels or (tons) per acre	
101	0	14.8	(.99)
102	M	18.2	(1.05)
103	ML	16.8	(1.33)
104	MLP	19.8	(1.36)
105	0	13.8	5.8
106	R	16.6	9.2
107	RL	21.2	9.8
108	RLP	20.0	9.5
109	RLPK	18.6	11.3
110	0	17.4	(.99)
		Soybeans[1]	Corn
201	0	(1.37)	28.0
202	M	(1.16)	31.4
203	ML	(1.41)	49.4
204	MLP	(1.60)	49.4
205	0	7.7	28.2
206	R	7.2	36.0
207	RL	10.3	35.0
208	RLP	8.8	39.0
209	RLPK	9.7	47.0
210	0	(.96)	28.0
		Wheat[2]	Soybeans[3]
301	0	6.3	(.76)
302	M	6.7	(.85)
303	ML	9.0	(.70)
304	MLP	8.2	(.63)
305	0	1.8	3.3
306	R	3.7	4.7
307	RL	8.8	8.8
308	RLP	9.2	9.7
309	RLPK	11.0	8.3
310	0	5.0	(.66)
		Soybeans[1]	Wheat[3]
401	0	(.48)	10.5
402	M	(.67)	15.0
403	ML	(.73)	24.2
404	MLP	(.80)	27.2
405	0	5.2	18.8
406	R	6.3	17.2
407	RL	8.0	23.5
408	RLP	6.0	25.3
409	RLPK	6.5	23.5
410	0	(.61)	16.2

[1]No residues, manure, or potassium. [2]No residues or manure. [3]No manure.

TABLE 59a.—SPARTA FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1916 Soybeans[1]	1917 Potatoes
		Bushels or (tons) per acre	
501	0	(1.28)	25.5
502	M	(1.20)	35.0
503	ML	(1.28)	34.0
504	MLP	(1.22)	33.5
505	MLPK	(1.20)	23.3
506	0	(1.07)	12.2
			Alfalfa[2]
601	0	....	(.49)
602	M	....	(.58)
603	ML	....	(3.23)
604	MLP	....	(3.25)
605	MLPK	....	(1.72)
606	0	....	(.00)
		Wheat[1]	Soybean hay[2]
701	0	5.7	(1.51)
702	M	5.3	(1.52)
703	ML	5.2	(1.89)
704	MLP	4.0	(1.80)
705	MLPK	3.0	(1.89)
706	0	.3	(.91)
		Potatoes[1]	Wheat[2]
801	0	30.3	24.8
802	M	25.5	20.5
803	ML	30.5	22.0
804	MLP	17.2	27.2
805	MLPK	17.2	30.2
806	0	32.0	22.3

GENERAL NOTES.—The major rotation consists of corn, soybeans, wheat, and alsike clover. The minor rotation is potatoes, wheat, and alsike clover, with alfalfa on a fourth field, which remains down while the three crops go thru two rotations. The soil treatment is standard, as described in the introduction.

[1]Lime and potassium only. [2]No manure.

TABLE 60.—SPRING VALLEY FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM, FORMERLY TIMBERED; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1915[1] Corn	1916 Oats[2]	1917 Clover[2]
		Bushels or (tons) per acre		
101	0	34.8	35.9	(2.26)
102	M	27.8	32.5	(1.83)
103	ML	26.4	29.7	(2.36)
104	MLP	34.4	35.9	(2.40)
105	0	35.0	26.9	.03
106	R	30.4	31.2	.05
107	RL	31.2	34.4	.03
108	RLP	30.2	38.1	.05
109	RLPK	33.0	36.9	.03
110	0	35.0	35.9	(1.34)
		Wheat	Corn	Oats
201	0	19.0	25.8	56.2
202	M	8.2	13.8	44.1
203	ML	6.3	10.4	39.1
204	MLP	15.5	17.8	49.7
205	0	15.8	14.6	40.9
206	R	15.5	19.8	39.7
207	RL	21.2	30.0	47.8
208	RLP	20.8	26.2	55.6
209	RLPK	18.8	25.0	42.2
210	0	13.5	20.2	42.5
		Soybeans	Wheat[2]	Corn
301	0	17.5	26.0	23.6
302	M	(1.36)	17.3	32.4
303	ML	(1.40)	16.3	29.6
304	MLP	(1.54)	21.2	44.0
305	0	16.5	20.7	23.8
306	R	17.2	17.2	46.2
307	RL	17.3	23.8	48.0
308	RLP	17.5	19.2	45.6
309	RLPK	17.0	14.3	50.4
310	0	16.5	16.7	20.0
		Oats	Clover[2]	Wheat[2]
401	0	41.2	(2.31)	36.5
402	M	38.4	(2.00)	33.0
403	ML	23.1	(1.92)	32.8
404	MLP	34.7	(2.33)	38.2
405	0	33.8	.10	35.0
406	R	28.8	.17	37.3
407	RL	38.1	.12	39.3
408	RLP	32.5	.15	41.8
409	RLPK	38.8	.15	39.0
410	0	31.9	(2.33)	35.0

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

[1]Lime only. [2]No manure.

TABLE 61.—TOLEDO FIELD: CROP YIELDS IN SOIL EXPERIMENTS
GRAY SILT LOAM ON TIGHT CLAY, PRAIRIE; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1913[1] Soybeans	1914 Wheat[2]	1915 Corn	1916 Oats	1917 Soybeans
		Bushels or (tons) per acre				
101	0	(.54)	11.2	33.7	28.4	(1.09)
102	M	(.35)	11.4	31.4	27.8	(1.06)
103	ML	(.54)	15.1	38.1	38.6	(1.62)
104	MLP	(.49)	17.0	41.1	40.3	(1.56)
105	0	2.5	8.3	28.7	26.1	4.9
106	R	3.7	8.2	28.2	21.9	7.3
107	RL	3.6	10.0	29.0	35.8	10.0
108	RLP	3.2	12.6	24.6	34.5	12.5
109	RLPK	3.5	15.7	38.1	42.0	14.1
110	0	(.53)	7.0	22.0	24.1	(.74)
		Oats	Soybeans[2]	Wheat[2]	Corn	Oats
201	0	1.1	(.68)[3]	6.2	26.6	5.2
202	M	1.2	(.50)	4.7	29.1	5.6
203	ML	.9	(.46)	12.0	32.2	25.6
204	MLP	.8	(.48)	14.4	29.8	37.8
205	0	.5	5.2	2.7	19.4	5.8
206	R	.9	5.0	3.0	14.4	17.5
207	RL	1.1	7.0	12.0	22.3	29.7
208	RLP	1.9	7.4	17.7	21.1	37.0
209	RLPK	.6	7.0	25.9	22.8	53.3
210	0	1.1	(.40)[3]	8.8	17.6	16.1
		Corn	Oats[2]	Soybeans[2]	Wheat[2]	Corn
301	0	3.8	0.0	(.62)	.1	5.6
302	M	3.6	.2	(.66)	.1	12.1
303	ML	5.1	.8	(.96)	.7	17.2
304	MLP	5.4	.6	(1.02)	2.6	18.2
305	0	3.0	.2	7.2	.1	6.1
306	R	3.7	.2	7.4	.2	6.2
307	RL	5.5	.6	13.2	3.2	19.5
308	RLP	3.9	.5	12.6	3.8	22.4
309	RLPK	4.4	.8	12.3	10.8	25.3
310	0	3.6	.3	(.87)	.1	6.6
		Oats	Corn	Oats	Clover	Wheat
401	0	.9	24.7	22.0	(.16)	9.8
402	M	.9	27.5	21.6	(.37)	12.8
403	ML	1.1	30.3	27.2	(.82)	27.5
404	MLP	.9	32.5	26.9	(.88)	33.6
405	0	.8	25.8	18.9	.08	7.6
406	R	.8	27.5	23.6	.25	13.8
407	RL	.8	25.1	30.5	.67	30.2
408	RLP	.9	27.6	29.4	.14	33.2
409	RLPK	.6	28.4	38.6	.19	35.8
410	0	.8	25.2	20.3	(.64)	2.5

[1]Lime only. [2]No manure. [3]Estimated.

TABLE 62.—TOLEDO FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 4 crops	Oats 4 crops[1]	Wheat 4 crops[2]	Clover 1 crop	Soybeans 3 crops[3]
1	0	22.7	13.9	6.8	(.16)	(.80)
2	M	25.0	13.8	7.2	(.37)	(.74)
3	ML	29.4	23.0	13.8	(.82)	(1.01)
4	MLP	30.4	26.4	16.9	(.88)	(1.02)
5	0	20.0	12.8	4.7	.08	5.8
6	R	19.1	15.8	6.3	.25	6.6
7	RL	24.0	24.1	13.9	.67	10.7
8	RLP	23.9	25.3	16.8	.14	10.8
9	RLPK	28.7	33.7	22.0	.19	11.1
10	0	17.9	15.2	4.6	(.64)	(.67)

NOTE.—The crop rotation and soil treatment are standard, as described in the introduction.

[1]One crop without manure. [2]Three crops without manure. [3]Two crops without manure.

TABLE 63.—UNION GROVE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM OVER SAND, PRAIRIE; TERRACE

Plot No.	Soil treatment applied	1907 Corn[1]	1908 Oats[3]	1909 Clover[3]	1910 Corn[4]	1911 Corn[4]	1912 Oats	1913 Clover	1914 Corn	1915 Corn	1916 Barley	1917 Soybeans
		Bushels or (tons) per acre										
101	L	31.7	35.8	(2.49)	30.1	40.9	52.0	(4.00)	40.8	16.9	44.7	(1.55)
102	RL	36.4	43.0	....	43.2	58.1	63.6	.75	64.7	32.3	53.9	17.7
103	ML	35.1	40.0	(2.79)	43.0	56.8	61.3	(4.38)	67.2	42.7	60.2	(2.41)
104	CvML	39.4	49.5	(2.85)	52.7	52.4	60.5	(3.95)	63.8	35.8	55.9	(2.38)
105	L	33.9	45.5	(2.85)	29.0	38.6	37.0	(3.64)	46.8	15.3	41.7	(1.50)
106	LP	33.8	43.8	(2.83)	30.4	46.4	50.9	(3.77)	43.8	19.9	54.9	(1.30)
107	RLP	45.1	52.2	....	39.3	68.3	70.8	1.08	71.5	37.9	62.2	14.8
108	MLP	39.4	49.8	(2.70)	45.7	61.3	48.6	(3.38)	74.3	38.7	61.5	(2.20)
109	CvMLP	40.4	49.4	(2.85)	41.0	59.8	60.0	(3.88)	72.1	45.6	57.7	(2.30)
110	L	36.9	46 9	(2.83)	33.0	48.9	50.8	(4.44)	53.4	18.7	47.7	(1.62)
111	LPK	40.9	49.5	(3.37)	44.0	66.3	57.7	(4.60)	74.0	38.2	60.9	(1.60)
112	RLPK	54.4	53.9	....	54.8	77.2	69.8	.67	79.6	40.7	64.3	16.8
113	MLPK	50.6	53.4	(3.01)	51.8	70.4	54.8	(3.29)	72.0	42.1	56.7	(2.25)
114	CvMLPK	52.0	46.7	(2.79)	47.7	68.8	59.2	(3.17)	73.1	36.3	61.9	(2.18)
115	L	43.3	43.3	(2.09)	30.0	39.0	46.4	1.17	51.3	16.4	45.0	14.2
116	R	42.3	40.3	....	42.0	59.1	59.4	1.50	63.4	26.4	54.5	15.9
117	RP	42.9	42.8	....	42.6	60.3	67.2	1.92	70.3	38.2	58.6	12.7
118	RPK	47.3	44.1	....	54.2	72.1	69.7	1.58	77.9	42.9	58.8	16.4
119	RLNPK	50.6	53.3	....	56.7	74.2	70.5	.83	76.2	41.2	57.6	17.1
120	0	33.1	35.2	(2.12)	28.6	35.6	54.1	(2.97)	44.7	14.5	45.5	(1.08)

TABLE 63.—UNION GROVE FIELD, MAIN ROTATION, *Concluded*

Plot No.	Soil treatment applied	1907 Clover[2]	1908 Corn[1]	1909 Corn[2]	1910 Oats[3]	1911 Soybeans[3]	1912 Corn	1913 Corn	1914 Oats	1915 Clover	1916 Corn	1917 Corn
		Bushels or (tons) per acre										
201	L	....	63.6	57.6	68.3	23.1	54.5	35.9	51.6	(3.12)	36.8	33.0
202	RL	....	56.6	61.5	74.2	25.3	73.4	45.1	49.8	1.42	50.4	43.9
203	ML	....	61.2	60.6	67.8	24.1	84.9	51.5	48.3	(3.34)	50.0	50.7
204	CvML	....	56.1	59.9	72.3	25.0	85.5	48.9	45.3	(2.98)	52.1	50.9
205	L	....	58.8	61.6	64.5	23.0	55.7	34.7	47.2	(2.59)	34.9	32.1
206	LP	....	54.4	60.0	65.5	23.8	66.5	34.7	51.7	(3.00)	35.2	38.4
207	RLP	....	55.9	56.1	81.3	25.2	76.4	46.0	59.8	1.25	49.3	48.8
208	MLP	....	57.5	61.6	75.0	24.8	88.0	50.4	45.6	(3.65)	49.0	54.2
209	CvMLP	....	55.9	61.0	80.0	24.9	85.6	51.4	50.2	(3.42)	51.6	54.2
210	L	....	55.1	51.2	57.7	22 8	58.3	30.7	50.3	(2.68)	34.1	33.4
211	LPK	....	55.1	52.2	55.0	23.0	69.9	44.1	50.3	(3.28)	47.1	51.3
212	RLPK	....	56.5	49.1	65.3	23.5	77.7	49.4	61.7	.92	55.1	64.6
213	MLPK	....	51.8	45.9	58.8	22.8	88.0	50.6	55.8	(3.05)	53.5	60.2
214	CvMLPK	....	39.0	41.2	60.8	22.8	85.5	50.8	50.6	(3.04)	52.6	57.9
215	L	....	30.2	33.6	55.0	21.8	20.1	19.1	48.9	1.58	28.1	22.7
216	R	....	31.2	36.6	60.6	23.8	54.1	28.8	57.0	1.33	39.2	35.8
217	RP	....	32.2	37.2	67.5	22.9	68.5	29.3	65.8	.92	44.5	41.3
218	RPK	....	49.5	40.2	66.4	24.5	77.4	41.1	63.3	.92	48.7	50.5
219	RLNPK	....	51.1	47.6	73.0	24.5	81.7	47.2	62.2	1.50	54.3	57.3
220	0	....	30.4	32.2	49.5	21.4	27.2	19.5	55.0	(1.69)	23.5	23.2

[1]No lime, residues, manure, or cover crops. [2]No soil treatment applied, no yields taken. [3]No lime or manure. [4]No lime.

TABLE 63a.—UNION GROVE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied[1]	1913 Potatoes	1914 Potatoes	1915 Potatoes	1916 Alfalfa	1917 Alfalfa
		Bushels or (tons) per acre				
301	0	46.8	59.2	66.8	(1.60)	....
302	M	112.2	142.3	265.0	(5.35)	....
303	ML	83.7	113.6	237.4	(5.54)	....
304	MLP	91.7	117.5	251.8	(5.67)	....
			Alfalfa	Alfalfa	Potatoes	Potatoes
401	0	....	(3.30)	(4.74)	68.4	54.6
402	M	....	(3.55)	(4.72)	143.5	149.2
403	ML	....	(3.81)	(4.87)	123.3	152.5
404	MLP	....	(3.58)	(5.00)	115.2	134.2
			Alfalfa	Alfalfa	Alfalfa	Alfalfa
501	0	....	(3.03)	(4.47)	(4.12)	....
502	M	....	(3.32)	(4.50)	(4.12)	....
503	ML	....	(4.40)	(5.24)	(4.99)	....
504	MLP	....	(5.34)	(5.57)	(5.88)	....

[1]No manure for alfalfa on Series 400 or 500.

TABLE 64.—UNION GROVE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 6 crops	Oats 2 crops	Barley 1 crop	Clover 2 crops	Soy-beans 1 crop	Potatoes 5 crops
1	L	36.3	51.8	44.7	(3.56)	(1.55)	....
2	RL	51.6	56.7	53.9	1.09	17.7	....
3	ML	57.8	54.8	60.2	(3.86)	(2.41)	....
4	CvML	56.2	52.9	55.9	(3.47)	(2.38)	....
5	L	36.6	42.1	41.7	(3.11)	(1.50)	....
6	LP	39.8	51.3	54.9	(3.39)	(1.30)	....
7	RLP	55.0	65.3	62.2	1.17	14.8	....
8	MLP	59.1	47.1	61.5	(3.51)	(2.20)	....
9	CvMLP	60.1	55.1	57.7	(3.65)	(2.30)	....
10	L	38.1	50.6	47.7	(3.56)	(1.62)	....
11	LPK	54.1	54.0	60.9	(3.94)	(1.60)	....
12	RLPK	61.2	65.8	64.3	.80	16.8	....
13	MLPK	61.1	55.3	56.7	(3.17)	(2.25)	....
14	CvMLPK	59.4	54.9	61.9	(3.10)	(2.18)	....
15	L	26.3	47.7	45.0	1.38	14.2	....
16	R	41.3	58.2	54.5	1.41	15.9	....
17	RP	48.7	66.5	58.6	1.42	12.7	....
18	RPK	56.4	66.5	58.8	1.25	16.4	....
19	RLNPK	59.7	66.3	57.6	1.17	17.1	....
20	0	26.4	54.6	45.5	(2.33)	(1.08)	....
1	0	....	....	....	....	....	59.2
2	M	....	....	....	....	....	162.4
3	ML	....	....	....	....	....	142.1
4	MLP	....	....	....	....	....	142.1

GENERAL NOTES.—The main rotation consists of corn, corn, oats, and clover. The soil treatment as indicated for each plot is standard, as described in the introduction, with the exception that potassium is supplied in 100 pounds of potassium sulfate per acre per year and that one half of Plot 19 receives 200 pounds of dried blood and the other half 376 pounds of gluten meal, per acre per year.

The minor rotation consists of potatoes and alfalfa. The potatoes are grown on the same land for three years while the alfalfa is grown for six years. The soil treatment is standard, as described in the introduction, except that 15 tons per acre of manure is applied for each potato crop.

TABLE 65.—UNIONVILLE FIELD, MAIN ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

YELLOW-GRAY SILT LOAM, TIMBER SOIL; UNGLACIATED

Plot No.	Soil treatment applied	1911 Seed cotton,[1] *lbs.*	1912 Corn[1]	1913 Cowpeas[4]	1914 Wheat[3]	1915 Seed cotton, *lbs.*	1916 Corn	1917 Cowpeas
		Bushels or (tons) per acre						
101	0.....	1120	36.6	(1.19)	13.6	340	44.1	(.83)
102	M.....	793	30.8	(.70)	13.4	525	47.9	(1.07)
103	ML.....	710	46.5	(1.20)	20.4	935	61.2	(1.50)
104	MLP...	625	47.2	(1.01)	20.5	775	54.0	(1.32)
105	0.....	450	36.3	5.1	11.7	155	37.2	4.4
106	R.....	440	37.1	6.4	14.7	65	38.1	4.2
107	RL.....	403	56.7	6.2	23.2	390	56.8	4.6
108	RLP....	350	53.8	7.0	25.2	430	60.5	3.7
109	RLPK..	483	53.1	8.1	26.7	575	59.8	5.0
110	0.....	323	28.1	(.64)	8.8	265	32.0	(.80)

		Wheat[2]	Seed cotton, *lbs.*	Corn	Cowpeas	Wheat	Seed cotton, *lbs.*	Corn
201	0.....	15.8	22	18.2	(.34)	9.8	485	21.0
202	M.....	16.3	32	24.9	(.24)	11.6	490	23.6
203	ML.....	15.9	150	31.4	(.23)	18.7	590	30.1
204	MLP...	17.6	170	34.5	(.29)	22.5	600	35.7
205	0.....	16.6	45	21.0	.8	11.0	490	20.6
206	R.....	14.0	25	17.1	3.8	12.8	365	24.4
207	RL.....	15.2	55	23.3	2.2	19.2	395	48.3
208	RLP....	14.3	82	27.1	2.5	26.3	600	47.9
209	RLPK..	17.8	178	33.0	4.4	30.8	820	56.8
210	0.....	12.8	35	19.6	(.34)	11.1	290	24.4

		Cowpeas[1]	Wheat[3]	Seed cotton, *lbs.*	Corn	Cowpeas	Wheat	Seed cotton, *lbs.*
301	0.....	5.5	4.1	265	6.6	(.50)	3.8	62
302	M.....	5.6	3.0	532	5.1	(.56)	7.5	90
303	ML.....	5.7	6.2	690	4.6	(.94)	14.9	385
304	MLP...	6.6	7.4	960	4.9	(2.33)	22.3	325
305	0.....	5.7	4.0	212	3.0	.3	4.8	52
306	R.....	7.3	3.9	192	3.0	.3	5.7	55
307	RL.....	6.9	5.6	188	6.2	.6	12.8	210
308	RLP....	7.8	8.1	232	5.0	.5	19.2	210
309	RLPK..	8.9	12.6	365	5.6	.8	24.5	355
310	0.....	5.5	5.1	162	3.9	(.44)	5.7	65

		Corn[1]	Cowpeas[4]	Wheat[3]	Seed cotton, *lbs.*	Corn	Cowpeas	Wheat
401	0.....	31.5	(.54)	2.8	235	35.2	(.77)	4.3
402	M.....	36.1	(.55)	4.0	430	50.2	(1.03)	8.7
403	ML.....	36.9	(.71)	9.8	530	54.2	(1.34)	15.4
404	MLP...	34.0	(.78)	12.5	435	53.4	(1.50)	19.3
405	0.....	27.8	(.54)	2.3	215	34.7	.5	4.9
406	R.....	26.4	....	1.8	245	36.6	.5	5.3
407	RL.....	30.4	....	10.9	200	46.8	.4	15.6
408	RLP....	31.1	....	13.2	250	53.6	.5	17.0
409	RLPK..	36.2	....	15.2	355	56.2	.6	19.6
410	0.....	27.1	(.50)	1.1	310	33.1	(.77)	3.2

[1]Lime only. [2]No manure or residues. [3]No manure. [4]No manure, phosphate, or potassium.

TABLE 65a.—UNIONVILLE FIELD, MINOR ROTATION: CROP YIELDS IN SOIL EXPERIMENTS

Plot No.	Soil treatment applied	1911 Cowpeas	1912	1913 Alfalfa	1914 Alfalfa	1915 Alfalfa	1916 Soybeans	1917 Potatoes
		Bushels or (tons) per acre						
501	0.....	....	....	(.09)	(.44)	(.42)	5.2	13.9
502	MLP...	....	....	(1.16)	(1.33)	(1.97)	16.8	95.7
503	RLP....	....	....	(.66)	(1.09)	(1.47)	15.1	17.1
504	RLPK..	....	....	(.84)	(1.07)	(1.49)	14.5	27.5
505	0.....	....	....	(.15)	(.53)	(.88)	3.5	17.9
506	0.....	....	....	(.33)	(.43)	....	5.3	20.2
507	0.....	....	....	(.62)	(.33)	....	9.4	20.3
508	0.....	....	....	(.38)	(.47)	....	7.5	18.7
			Wheat[2]	Clover[3]	Potatoes	Wheat	Alfalfa	Alfalfa
601	0.....	....	4.4	(.50)	23.2	11.4	(.66)	(.35)
602	MLP...	....	7.7	(.95)	3.0	33.9	(5.05)	(2.83)
603	RLP....	....	7.7	.75	5.8	20.8	(3.79)	(1.86)
604	RLPK..	....	11.6	.50	7.0	24.7	(4.34)	(1.94)
605	0.....	....	7.0	(.60)	7.6	14.2	(1.44)	(.56)
606	0.....	....	7.5	(.89)	13.2	15.8	(1.47)	(.68)
607	0.....	....	5.5	(.99)	5.7	12.6	(1.50)	(.68)
608	0.....	....	5.5	(1.16)	9.3	14.8	(1.78)	(.61)
		Cowpeas[1]	Potatoes	Wheat	Soybeans	Potatoes	Wheat	Clover
701	0.....	5.4	18.0	3.5	(.18)	21.6	4.5	(.52)
702	MLP...	6.2	31.6	30.8	(.58)	218.4	23.8	(2.00)
703	RLP....	....	11.8	18.5	1.1	45.0	13.7	1.42
704	RLPK..	....	8.5	19.9	1.1	30.6	13.4	1.33
705	0.....	2.9	8.5	3.7	.5	18.7	4.4	(.41)
706	0.....	....	12.3	5.6	(.17)	15.0	4.0	(.48)
707	0.....	....	5.7	2.9	(.12)	13.1	3.4	(.39)
708	0.....	....	9.3	4.8	(.13)	22.4	4.2	(.66)
		Wheat[2]	Soybeans[3]	Potatoes	Wheat	Soybeans	Potatoes	Oats
801	0.....	16.0	(.29)	4.5	10.0	(.83)	3.2	21.1
802	MLP...	18.3	(.66)	6.0	24.6	(2.44)	13.5	30.3
803	RLP....	15.5	2.8	6.4	24.4	6.8	3.7	46.2
804	RLPK..	17.1	4.2	6.3	23.5	4.2	4.4	44.5
805	0.....	15.2	1.2	4.0	13.5	1.9	1.2	26.7
806	0.....	13.7	(.28)	7.8	14.5	(.88)	2.0	24.1
807	0.....	14.0	(.31)	7.1	13.8	(1.08)	1.4	24.7
808	0.....	14.0	(.35)	7.1	14.1	(1.26)	1.8	24.4

[1]Lime only. [2]No manure or residues. [3]No manure.

TABLE 66.—UNIONVILLE FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) or pounds per acre									
		Corn	Wheat[1]	Seed Cotton, *lbs.*	Cow-peas	Alfalfa	Potatoes	Wheat	Soy-beans	Clover	Oats
		5 crops	4 crops	6 crops	4 crops	5 crops	6 crops	4 crops	3 crops	1 crop	1 crop
1	0	25.0	7.9	235	(.61)	....	....	....	....	....	....
2	M	30.3	10.3	350	(.72)	....	....	....	....	....	....
3	ML	36.3	17.3	547	(1.00)	....	....	....	....	....	....
4	MLP	36.5	21.1	544	(1.36)	....	....	....	....	....	....
5	0	23.3	8.1	195	1.5	....	....	....	....	....	....
6	R	23.8	9.6	158	2.2	....	....	....	....	....	....
7	RL	36.3	17.7	240	2.0	....	....	....	....	....	....
8	RLP	38.8	21.9	301	1.8	....	....	....	....	....	....
9	RLPK	42.3	25.4	441	2.7	....	....	....	....	....	....
10	0	22.6	7.2	188	(.59)	....	....	....	....	....	....
1	0	....	....	....	....	(.39)	14.1	7.3	(.51)	(.52)	21.1
2	MLP	....	....	....	....	(2.47)	61.4	28.2	(1.57)	(2.00)	30.3
3	RLP	....	....	....	....	(1.77)	15.0	19.3	7.7	1.42	46.2
4	RLPK	....	....	....	....	(1.94)	14.0	20.4	6.6	1.33	44.5

GENERAL NOTES.—The main rotation consists of corn, cowpeas or soybeans, wheat, and cotton; cover crops being grown on the residue plots after corn, wheat, and cotton. The minor rotation is alfalfa, potatoes, wheat, and clover. The alfalfa is grown for four years on the same land, after which it is seeded on another series. The soil treatment is standard, as described in the introduction, except that 30 tons of manure (45 tons before 1916) is applied per acre to the manure plots before potatoes are planted.

[1]No manure on 1914 wheat.

TABLE 67.—URBANA FIELD, MORROW PLOTS: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Years	Soil treatment applied	Corn every year	Two-year rotation		Three-year rotation		
		Corn	Corn	Oats	Corn	Oats	Clover
		Bushels or (tons) per acre					
1879 -87	None	....	....	....	....	....	....
1888	None	54.3	49.5	....	....	48.6	....
1889	None	43.2	....	37.4	....	....	(4.04)
1890	None	48.7	54.3	....	....	....	(1.51)
1891	None	28.6	33.2	....	....	....	(1.46)
1892	None	33.1	....	37.2	70.2	....	....
1893	None	21.7	29.6	....	34.1	....	....
1894	None	34.8	....	57.2	....	65.1	....
1895	None	42.2	41.6	....	....	22.2	....
1896	None	62.3	....	34.5	....	....	....
1897	None	40.1	47.0	....	....	....	....
1898	None	18.1	....	....	....	....	....
1899	None	50.1	44.4	....	53.5	....	....
1900	None	48.0	....	41.5	....	....	....
1901	None	23.7	33.7	....	34.3	....	....
1902	None	60.2	....	56.3	....	54.6	....
1903	None	26.0	35.9	....	....	....	(1.11)
1904	None	21.5	....	17.5	55.3	....	....
1904	MLP	17.1	....	25.3	72.7	....	....
1905	None	24.8	50.0	....	....	42.3	....
1905	MLP	31.4	44.9	....	....	50.6	....
1906	None	27.1	....	34.7	....	....	(1.42)[1]
1906	MLP	35.8	....	52.4	....	....	(1.74)[1]
1907	None	29.0	47.8	....	80.5	....	....
1907	MLP	48.7	87.6	....	93.6	....	....
1908	None	13.4	....	32.9	....	40.0	....
1908	MLP	28.0	....	45.0	....	44.4	....
1909	None	26.6	33.0	....	....	....	(.65) .64
1909	MLP	31.6	64.8	....	....	....	(1.73) 1.17
1910	None	35.9	....	33.8	58.6	....	....
1910	MLP	54.6	....	59.4	83.3	....	....
1911	None	21.9	28.6	....	....	20.6	....
1911	MLP	31.5	46.3	....	....	38.0	....
1912	None	43.2	....	55.0	....	....	16.3[1]
1912	MLP	64.2	....	81.0	....	....	20.0[1]
1913	None	19.4	29.2	....	33.8	....	....
1913	MLP	32.0	25.0	....	47.8	....	....
1914	None	31.6	....	33.6	....	39.6	....
1914	MLP	39.4	....	58.2	....	60.4	....
1915	None	40.0	49.0	....	....	....	24.2[1]
1915	MLP	66.0	81.2	....	....	....	27.1[1]
1916	None	11.2	....	37.5	27.8	....	....
1916	MLP	10.8	....	64.7	40.6	....	....
1917	None	40.0	48.4	....	....	68.4	....
1917	MLP	78.0	81.4	....	....	86.9	....

[1]Soybeans.

TABLE 67.—URBANA FIELD, MORROW PLOTS, *Concluded*

Years	Soil treatment applied	Corn every year	Two-year rotation		Three-year rotation		
		Corn	Corn	Oats	Corn	Oats	Clover
		Bushels or (tons) per acre					
Average of Crops Within Ten-Year Periods							
1888 to 1897	None.....	40.9	42.5	41.6	52.1	45.3	(2.34)
1898 to 1907	None.....	32.9	42.4	37.5	55.7	48.4	(1.27)[2]
	MLP.....	33.2	66.2	38.9	83.1	50.6	(1.74)[2]
1908 to 1917	None.....	28.3	37.6	38.6	40.7	42.1	(1.78)[2]
	MLP.....	43.6	59.7	61.7	57.2	57.4	(2.54)[2]

GENERAL NOTES.—The Morrow plots consist of three plots divided into halves. On one corn is grown continuously; on the second corn and oats are grown in rotation; and on the third, corn, oats and clover. The north half of each plot is untreated, while the south half receives standard applications of manure, cover crops (in the one-crop and two-crop systems). Rock phosphate is applied to the southwest one-fourth of each plot at the rate of 600 pounds, and steamed bone meal to the southeast one-fourth at the rate of 200 pounds per acre per year. In 1904 ground limestone was applied at the rate of 1,700 pounds per acre to the south half of each plot.

[2]Beans and clover averaged together as hay; 10 bushels beans to 1 ton hay.

TABLE 68.—URBANA FIELD, NORTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1902[1] Corn	1903[2] Oats	1904[2] Clover	1905 Corn	1906 Oats	1907 Clover	1908 Corn	1909 Oats	1910 Clover	1911 Wheat	1912 Corn	1913 Oats	1914 Soy-beans	1915 Wheat	1916 Al-falfa	1917 Al-falfa
		Bushels or (tons) per acre															
101	0	78.3	47.5	(0.43)	76.9	63.4	(2.15)	66.5	45.6	(3.02)	33.1	82.0	28.4	(1.61)	37.6	(1.97)	(3.00)
102	R	82.2	28.9	(0.31)	73.3	73.1	1.50	70.0	49.1	1.50	39.1	86.0	28.0	21.5	39.0	(2.50)	(3.26)
103	M	80.9	51.3	(0.22)	82.8	73.4	(2.87)	83.9	52.9	(3.44)	38.1	99.2	36.5	(1.63)	42.9	(2.88)	(3.42)
104	RL	80.1	35.0	(0.25)	71.8	75.9	1.86	68.9	49.4	1.83	40.6	87.8	30.0	19.8	36.0	(3.88)	(3.80)
105	ML	80.1	66.3	(0.28)	79.6	71.5	(2.90)	83.0	51.6	(3.97)	41.4	94.8	34.3	(1.64)	40.8	(4.23)	(3.83)
106	RLP	85.5	34.5	(0.33)	82.3	92.5	1.77	77.0	52.9	1.58	43.9	93.4	37.2	23.2	45.9	(4.66)	(3.93)
107	MLP	87.0	56.3	(1.79)	82.1	97.5	(3.53)	78.5	55.0	(5.32)	48.0	98.4	42.9	(1.83)	45.3	(4.63)	(4.20)
108	RLPK	87.8	17.1	(0.67)	83.9	94.1	1.67	75.4	49.4	1.82	44.3	87.8	38.8	24.2	46.6	(4.62)	(4.41)
109	MLPK	89.7	49.2	(2.79)	87.0	81.9	(3.60)	82.1	51.0	(5.00)	47.1	97.2	47.2	(2.04)	45.6	(4.70)	(4.21)
110	Mx_5LPx_5	85.9	50.9	(2.50)	81.3	71.5	(3.66)	75.4	47.6	(4.54)	46.6	105.8	47.6	(2.10)	40.3	(4.50)	(4.17)
		Cow-peas	Corn	Oats	Clover[2]	Corn	Oats	Clover	Corn	Oats	Soy-beans	Wheat	Corn	Oats	Soy-beans	Wheat	Corn
201	0	(1.03)	72.8	45.6	(1.39)	57.0	27.2	(2.06)	35.4	41.0	(1.80)	5.3	44.0	38.8	(1.62)	22.0	69.0
202	R	(1.01)	75.8	52.2	1.58	56.5	32.8	2.89	27.6	47.9	22.7	5.6	44.4	42.8	24.7	26.0	72.8
203	M	(1.02)	70.0	46.6	(1.37)	70.4	35.3	(2.36)	49.8	48.5	(1.82)	4.6	55.2	51.2	(1.90)	31.7	82.4
204	RL	(1.01)	71.4	48.4	1.25	57.6	35.6	2.83	34.8	50.3	21.3	6.6	43.6	40.6	26.0	27.8	86.0
205	ML	(1.03)	73.0	45.6	(1.41)	73.6	37.8	(2.54)	56.4	52.8	(1.93)	6.1	49.6	51.2	(1.90)	49.0	87.8
206	RLP	(1.17)	83.6	60.3	1.25	84.2	45.3	4.08	78.6	64.1	25.3	23.0	46.6	65.9	27.2	51.0	93.4
207	MLP	(1.16)	81.8	50.3	(2.63)	87.4	44.4	(4.10)	86.4	63.8	(2.30)	23.7	56.0	66.9	2.02	51.2	95.6
208	RLPK	(1.24)	87.4	60.0	2.33	85.8	46.3	3.14	83.6	64.4	25.9	27.1	47.2	70.9	30.3	50.0	99.0
209	MLPK	(1.22)	86.9	46.9	(3.00)	86.6	43.8	(3.77)	91.2	66.6	(2.78)	24.7	51.6	75.0	(2.10)	51.0	90.8
210	Mx_5LPx_5	(1.19)	82.1	42.5	(3.09)	71.0	41.9	(3.71)	69.0	65.0	(2.85)	33.1	45.4	(76.9)	2.24	45.7	106.8

[1]No residues or manure. [2]No manure. [3]Yield taken from small area and entire crop plowed under. [4]Hay yields include stubble clover of 1915. E. Error in harvesting.

TABLE 68.—URBANA FIELD, NORTH FARM, *Concluded*

Plot No.	Soil treatment applied	1902 Oats[1]	1903 Clover[1,3]	1904 Corn[2]	1905 Oats[2]	1906 Clover[2]	1907 Corn	1908 Oats	1909 Clover	1910 Corn	1911 Oats	1912 Soybeans	1913 Wheat	1914 Corn	1915 Oats	1916 Clover[4]	1917 Wheat
		Bushels or (tons) per acre															
301	0	53.4	(2.38)	75.0	49.1	(1.37)	80.5	35.9	(1.83)	46.2	25.8	(1.38)	11.2	49.4	72.2	(3.16)	20.5
302	R	54.3	(2.50)	74.2	50.0	.83	75.8	33.1	1.40	57.0	27.2	16.2	12.1	51.0	76.6	1.33	40.3
303	M	53.4	(2.63)	75.1	55.6	(1.43)	88.4	37.2	(1.80)	74.2	33.8	(1.36)	15.2	50.8	77.6	(2.98)	16.5
304	RL	58.4	(2.44)	83.7	64.4	1.00	87.4	37.5	1.50	70.6	35.5	15.8	17.2	56.4	77.4	1.17	45.0
305	ML	62.8	(2.63)	89.2	70.0	(2.01)	101.1	38.1	(2.32)	85.2	46.3	(1.40)	22.2	54.8	80.3	(3.60)	24.7
306	RLP	62.8	(2.94)	94.9	74.4	1.50	104.6	46.6	2.25	95.8	54.1	1.45	36.0	67.8	87.0	1.33	50.7
307	MLP	63.1	(2.88)	97.5	72.8	(2.65)	110.1	47.5	(3.10)	94.8	56.4	(1.52)	33.2	67.4	80.6	(4.38)	37.7
308	RLPK	67.8	(3.44)	95.0	74.7	1.42	111.6	46.6	1.00	101.0	53.5	16.5	32.2	67.0	85.8	1.00	50.7
309	MLPK	66.8	(3.63)	94.8	75.0	(3.18)	113.1	43.1	(2.93)	99.4	58.7	(1.44)	31.3	61.2	86.4	(4.47)	37.8
310	Mx5LPx5	66.2	(3.69)	91.5	75.6	(3.17)	118.0	50.3	(3.11)	99.6	64.8	(1.48)	46.3	43.0	93.7	(4.29)	39.0
		Oats	Corn	Oats	Corn	Oats	Corn	Oats	Corn	Oats	Corn	Oats	Clover	Wheat	Corn	Oats	Clover
401	0	52.8	47.0	35.0	69.4	59.7	68.4	38.4	46.2	52.8	27.9	66.2	(1.70)	23.7	66.4	56.2	(1.49)
402	R	57.5	42.9	38.4	62.9	54.4	69.9	36.9	38.6	52.5	33.9	64.4	.74	21.8	66.8	55.3	.53
403	M	59.6	50.2	34.1	69.4	57.5	69.4	35.9	48.4	54.7	32.1	73.8	(1.43)	23.2	80.8	78.8	(2.18)
404	RL	61.2	45.1	39.6	64.1	58.7	75.9	34.7	43.6	57.8	34.9	65.0	1.03	24.7	73.2	60.6	1.58
405	ML	62.1	48.1	36.8	72.0	63.1	66.6	39.7	47.2	58.8	35.3	74.4	(1.94)	29.8	82.6	80.9	(2.65)
406	RLP	67.1	E	53.7	68.0	74.1	84.6	49.1	57.6	68.4	41.0	77.5	2.48	46.8	80.8	81.6	2.33
407	MLP	62.5	E	42.8	71.4	63.1	68.6	45.3	46.0	64.7	33.5	77.5	(2.90)	41.5	82.6	86.9	(3.22)
408	RLPK	62.1	E	44.6	58.0	62.8	84.1	49.4	58.8	65.3	35.5	73.4	1.41	40.7	81.0	82.5	1.72
409	MLPK	66 5	48.9	36.5	74.1	58.4	71.4	45.9	51.6	65.3	28.5	79.4	(2.72)	38.2	84.4	89.1	(2.89)
410	Mx5LPx5	66 2	46.0	39.1	67.0	58.7	95.6	55.3	72.6	57.8	28.6	79.4	(2.94)	48.2	82.0	88.4	(3.04)
		Corn	Oats	Corn	Oats[2]	Corn	Oats	Corn	Oats	Corn	Alfalfa	Alfalfa	Alfalfa	Alfalfa	Alfalfa	Corn	Oats
501	0	57.6	42.5	59.0	52.5	58.3	28.4	37.5	45.4	54.6	....	(.42)	(2.78)	(3.58)	(4.59)	39.0	83.1
502	R	58.4	43.2	52.6	55.6	51.9	29.4	45.0	43.5	58.6	....	(.06)	(2.46)	(2.56)	(4.19)	37.6	87.2
503	M	55.3	43.2	46.2	51.6	54.3	29.7	33.1	48.2	55.4	....	(.07)	(1.97)	(2.49)	(3.88)	46.6	93.1
504	RL	54.6	46.9	46.0	52.8	48.9	29.1	39.3	45.6	52.8	....	(.06)	(2.08)	(2.60)	(3.87)	39.4	81.6
505	ML	57.2	52.1	48.9	58.1	57.8	33.8	39.6	47.5	59.4	....	(.32)	(2.92)	(3.43)	(4.58)	44.0	93.1
506	RLP	61.6	63.4	71.6	64.4	63.3	38.8	76.1	52.5	92.6	....	(.89)	(5.47)	(4.40)	(5.61)	46.0	104.7
507	MLP	66.2	73.1	63.2	63.8	61.8	41.3	46.1	54.7	68.8	....	(.99)	(5.29)	(4.24)	(5.74)	43.8	90.9
508	RLPK	68.4	68.8	63.6	61.2	58.3	39.1	74.1	52.6	99.0	....	(1.01)	(5.05)	(4.24)	(5.81)	45.0	109.7
509	MLPK	70.0	67.1	63.0	56.6	49.6	36.6	39.8	51.6	62.6	....	(1.18)	(5.23)	(4.24)	(5.90)	37.6	90.0
510	Mx5LPx5	65.3	62.8	57.1	42.2	64.9	38.5	75.0	49.1	99.4	....	(1.70)	(5.42)	(4.24)	(5.90)	27.0	85.6

(See preceding section for footnotes.)

TABLE 69.—URBANA FIELD, NORTH FARM: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre					
		Corn 19 crops	Oats 17 crops	Wheat 7 crops	Clover 8 crops[1]	Soy-beans 4 crops	Alfalfa 6 crops
1	0	56.6	47.6	21.9	(2.10)	(1.60)	(2.33)
2	R	56.8	49.1	26.3	1.34	21.3	(2.14)
3	M	64.6	54.0	24.6	(2.31)	(1.68)	(2.10)
4	RL	59.8	50.9	28.3	1.60	20.7	(2.32)
5	ML	66.8	56.2	30.6	(2.74)	(1.72)	(2.76)
6	RLP	75.4	64.2	42.5	2.16	22.6	(3.56)
7	MLP	72.6	63.5	40.1	(3.62)	(1.92)	(3.58)
8	RLPK	75.6	64.4	41.7	1.64	24.2	(3.59)
9	MLPK	71.6	62.9	39.4	(3.57)	(2.09)	(3.63)
10	$M_{x5}LP_{x5}$	75.1	62.5	42.7	(3.56)	(2.17)	(3.70)

GENERAL NOTES.—From 1902 to 1911 the first three series were grown to corn, oats, and clover, and the last two to corn and oats. Beginning with 1911 the five series were thrown into a rotation of corn, oats, clover, and wheat, with alfalfa on the fifth series. The alfalfa remains down for five years and is then moved ahead on the other series. Until 1908 the phosphorus was applied in 200 pounds of steamed bone meal per acre per year; since that time this application has been made to the east halves only, while 600 pounds of rock phosphate has been applied to the west halves. Air-slacked lime was applied in 1902 (250 pounds) and in 1903 (600 pounds), and no further applications were made until 1911, after which standard applications were made as described in the introduction. Manure was applied for corn at the rate of 4 tons per acre in the two-crop rotation and 6 tons in the three-crop rotation in 1905, 1906, and 1907; the residue system included only cover crops from 1902 to 1907; after which both manure and residues have been standard, except that Plot 10 receives about five times the standard amounts of manure and phosphorus.

[1]No manure on 1906 clover.

TABLE 70.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION
ROTATION: CORN, OATS, CLOVER, WHEAT

Plot No.	Soil treatment applied	1903 Corn	1904 Corn	1905 Oats	1906 Wheat	1907 Clover	1908 Corn	1909 Oats	1910 Clover	1911 Wheat[1]	1912 Corn	1913 Oats	1914 Soybeans	1915 Wheat	1916 Corn	1917 Oats
		Bushels or (tons) per acre														
163	RP	45.1	54.1	57.5	39.8	.83	72.0	45.4	.60	46.9	74.9	26.8	16.6	46.9	37.6	78.8
166	RP	43.8	49.3	60.9	36.5	1.00	74.9	40.8	1.30	53.4	79.5	24.6	17.5	44.4	41.6	74.1
169	R	42.7	39.5	49.3	28.4	.90	65.0	39.9	1.70	36.7	67.9	19.1	15.3	26.6	29.2	59.9
170	M	41.8	38.7	52.2	26.2	(2.56)	69.6	40.1	(2.87)	35.9	76.7	22.5	(1.09)	31.8	37.2	67.4
173	MP	35.4	53.3	54.6	32.8	(3.65)	78.4	39.8	(4.23)	52.7	83.7	29.6	(1.45)	50.5	41.9	78.4
176	MP	39.3	58.1	61.9	38.8	(3.74)	79.5	40.0	(4.23)	51.0	85.6	32.1	(1.52)	48.9	41.5	75.1
163	RLP									49.9	87.0	28.2	18.1	50.9	47.2	57.3
166	RLP									53.6	81.4	26.8	18.0	49.6	45.7	66.6
169	R									33.8	62.7	17.0	15.2	25.9	33.6	61.4
170	M									32.4	74.4	22.0	(1.09)	31.2	34.5	63.1
173	MLP									51.3	85.7	28.0	(1.37)	52.4	46.6	63.6
176	MLP									51.0	85.6	30.9	(1.47)	53.0	44.3	66.1
		Oats	Oats	Wheat	Clover	Corn	Oats	Wheat	Wheat[1]	Corn	Oats	Soybeans	Wheat	Corn	Oats	Soybeans
263	RP	24.7	25.7	32.1	(.82)	65.3	31.3	42.5	43.7	52.3	72.9	13.7	30.6	57.9	57.0	(1.93)
266	RP	23.1	24.5	29.3	(.80)	59.7	26.7	40.7	32.3	50.2	75.7	12.3	33.9	56.4	58.5	(1.90)
269	R	26.8	22.5	26.8	(.86)	57.9	31.5	39.4	25.3	35.5	61.9	10.7	16.1	45.9	51.6	(1 68)
270	M	22.0	21.5	24.0	(.82)	55.3	30.0	37.1	28.7	43.1	67.8	(.84)	17.4	57.0	58.9	(1.73)
273	MP	23.9	25.0	27.8	(.77)	62.5	29.5	43.4	43.7	38.6	69.4	(1.17)	37.2	61.5	76.9	(1.74)
276	MP	16.1	25.3	30.7	(.68)	58.0	27.9	44.1	38.2	48.0	68.6	(1.34)	42.0	57.6	74.8	(1.85)
263	RLP								49.0	50.3	78.9	13.2	40.4	50.0	65.5	(2.01)
266	RLP								45.2	47.1	78.7	10.3	36.0	55.8	64.0	(2.08)
269	R								35.3	45.3	68.4	10.5	20.7	53.3	60.0	(2.28)
270	M								33.3	45.2	73.2	(1.13)	20.1	55.5	66.8	(1.81)
273	MLP								46.2	53.7	69.0	(1.27)	46.2	49.6	78.4	(1.90)
279	MLP								39.5	50.6	69.5	(1.24)	49.0	53.5	75.9	(1.96)

[1]Limestone not used until 1910 and 1911.

TABLE 70.—URBANA FIELD, SOUTH FARM, *Continued*
BLACK CLAY LOAM PRAIRIE[1]; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1903 Oats	1904 Wheat	1905 Clover	1906 Corn	1907 Oats	1908 Wheat	1909 Clover	1910 Corn	1911 Oats	1912 Soybeans	1913 Wheat	1914 Corn	1915 Oats	1916 Clover	1917 Wheat
		Bushels or (tons) per acre														
363	RP	28.5	16.6	(1.52)	79.7	35.4	39.4	.86	72.5	64.1	17.5	38.1	70.5	80.9	.93	46.2
366	RP	28.4	21.5	(1.52)	82.0	35.0	45.7	.33	72.7	68.1	16.7	45.8	66.8	82.3	1.07	48.1
369	R	28.4	13.5	(1.25)	85.0	33.1	39.2	.91	67.3	54.5	16.0	39.8	69.0	79.8	.78	43.3
370	M	29.0	15.3	(1.43)	92.4	32.8	29.2	(2.91)	73.0	61.2	(1.18)	41.8	67.4	84.0	(2.90)	36.6
373	MP	29.5	15.0	(1.94)	76.5	34.7	44.5	(2.94)	70.1	61.4	(1.17)	44.7	57.1	87.2	(2.90)	35.9
376	MP	30.7	16.3	(1.94)	64.4	33.4	45.7	(3.11)	76.0	56.5	(1.17)	46.7	46.5	90.1	(2.86)	31.3
363	RLP							.11	76.2	65.6	16.7	34.0	70.1	81.5	1.17	43.1
366	RLP							.86	84.6	69.4	17.0	39.6	73.7	80.8	1.37	44.6
369	R							.50	69.3	51.4	14.2	27.9	62.5	73.0	.63	38.5
370	M							(2.11)	68.0	46.3	(.87)	31.2	62.1	81.2	(2.73)	25.1
373	MLP							(2.11)	76.4	50.7	(.82)	40.2	57.3	85.5	(2.94)	31.9
376	MLP							(2.23)	73.3	48.0	(.92)	36.7	50.7	80.7	(2.89)	26.0
		Clover[2]	Clover[3]	Corn	Oats	Wheat	Clover	Corn	Oats	Soybeans	Soybeans	Corn	Oats	Soybeans	Wheat	Corn
463	RP	....	....	64.8	60.0	43.3	1.34	74.4	56.2	13.3	19.6	45.9	43.5	23.2	45.6	69.8
466	RP	....	....	64.3	57.0	42.4	1.66	75.9	60.0	15.1	18.6	46.7	46.0	23.1	45.1	73.0
469	R	....	....	65.0	54.3	40.2	1.48	66.3	54.7	16.0	16.1	33.0	42.0	22.8	30.4	64.2
470	M	....	....	67.1	53.9	40.2	(2.37)	64.0	51.2	(1.40)	(.97)	51.0	50.2	(1.41)	37.0	74.7
473	MP	....	....	72.2	59.5	42.6	(2.93)	73.1	55.6	(1.10)	(.87)	49.1	52.5	(2.00)	45.8	82.1
476	MP	....	....	72.1	60.5	43.0	(2.56)	69.9	59.1	(1.06)	(1.10)	48.8	53.9	(1.92)	43.3	78.7
463	RLP								56.9	11.5	14.1	44.0	49.5	23.3	40.2	66.8
466	RLP								52.2	12.7	19.1	43.0	52.5	24.1	41.2	73.5
469	R								47.8	9.2	15.1	31.5	41.2	23.4	19.1	56.7
470	M								45.0	(1.00)	(.83)	38.3	49.7	(1.85)	27.5	75.8
473	MLP								52.5	(1.37)	(1.15)	57.8	55.4	(2.01)	41.1	88.1
476	MLP								57.2	(1.30)	(1.07)	52.5	54.4	(2.02)	42.0	85.6

NOTE.—The crop rotation and soil treatment as indicated are standard, as described in the introduction.
[1]Series 400 is a lighter phase, approaching brown silt loam. [2]Not harvested. [3]Not harvested by plots.

TABLE 71.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE[1]; EARLY WISCONSIN GLACIATION
ROTATION: CORN, CORN, OATS, CLOVER

Plot No.	Soil treatment applied	1903 Corn	1904 Corn	1905 Soybeans	1906 Oats	1907 Clover	1908 Corn	1909 Corn	1910 Oats	1911 Soybeans	1912 Corn	1913 Corn	1914 Oats	1915 Soybeans	1916 Corn	1917 Corn
		Bushels or (tons) per acre														
543	RP.....	38.6	58.8	8.3	70.0	(2.36)	67.0	66.1	53.4	8.6	71.3	38.5	45.1	22.2	41.1	69.7
546	RP.....	35.9	59.0	12.1	71.4	(2.34)	70.3	58.4	61.8	8.8	72.9	39.9	49.5	20.7	43.9	68.3
549	R.....	42.6	50.5	7.6	66.2	(2.23)	61.7	62.2	54.6	8.1	65.6	29.1	36.6	20.4	37.0	59.1
550	M.....	39.7	52.1	(1.27)	65.7	(1.93)	60.3	61.7	56.0	(.97)	66.3	36.1	36.9	(1.45)	46.7	68.7
553	MP.....	41.0	62.1	(1.30)	64.0	(2.41)	67.1	67.4	48.6	(1.14)	70.8	35.7	45.7	(1.57)	45.1	71.7
556	MP.....	45.4	55.7	(.49)	59.8	(2.40)	59.9	(2)	52.3	(1.11)	63.2	47.9	44.4	(1.72)	47.5	70.6
		Corn	Corn	Corn	Soybeans	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Soybeans	Corn	Corn	Oats
643	RP.....	41.9	51.0	44.3	(.88)	67.0	33.7	49.8	0	44.6	73.1	19.5	19.3	54.2	37.5	94.5
646	RP.....	37.5	45.8	46.8	(.98)	62.8	29.0	49.7	0	46.7	71.2	19.6	19.9	54.6	36.9	100.0
649	R.....	27.6	39.1	37.5	(1.05)	62.8	30.9	47.8	0	32.1	57.5	13.2	16.9	46.2	31.6	78.3
650	M.....	28.3	40.9	42.6	(.98)	57.9	26.3	53.0	(2.30)	36.9	57.5	14.6	(1.45)	51.6	33.4	76.3
653	MP.....	38.9	48.4	48.6	(1.37)	64.5	38.8	51.1	(3.68)	47.0	76.1	19.5	(1.70)	54.1	38.5	101.9
656	MP.....	39.0	43.9	48.5	(1.47)	60.4	34.3	49.8	(3.68)	43.8	80.2	20.0	(1.82)	53.7	39.4	100.5
		Corn	Corn	Corn	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Soybeans
743	RP.....	38.3	54.8	51.2	37.2	51.1	17.0	.59	90.7	28.9	80.0	1.10	49.5	66.5	81.1	18.0
746	RP.....	37.8	49.4	52.5	47.7	41.0	19.5	.72	61.3	30.1	77.2	1.04	50.4	57.8	85.5	18.0
749	R.....	35.6	48.5	44.3	46.7	51.0	18.7	.56	72.7	33.4	75.3	.96	48.9	54.3	90.9	18.5
750	M.....	36.5	42.3	48.2	44.2	48.3	17.8	(1.83)	68.5	25.7	80.7	(1.55)	52.6	57.5	81.4	(2.52)
753	MP.....	33.2	43.3	49.0	54.5	54.5	20.3	(2.30)	70.9	31.4	82.6	(1.82)	52.2	61.5	91.8	(2.45)
756	MP.....	32.9	41.3	46.0	54.2	43.2	21.2	(1.49)	67.3	29.4	80.4	(1.80)	52.2	60.2	90.6	(2.39)
		Soybeans	Soybeans	Corn	Corn	Oats	Clover	Corn	Corn	Oats	Soybeans	Corn	Corn	Oats	Clover	Corn
843	RP.....	14.0	17.5	70.2	54.7	61.2	.80	68.1	70.0	41.9	14.2	36.8	41.6	72.4	.94	62.4
846	RP.....	13.3	12.6	67.3	60.2	51.8	.91	62.7	63.0	41.2	15.8	52.9	51.9	75.1	1.11	69.1
849	R.....	13.8	14.5	73.6	62.8	47.0	.75	59.1	60.7	36.9	12.8	33.2	47.2	74.3	.60	66.5
850	M.....	13.2	(1.8)	74.3	61.9	45.0	(2.29)	54.3	64.1	35.1	(.75)	38.3	42.1	75.5	(2.26)	70.1
853	MP.....	13.2	(1.6)	72.2	59.0	50.0	(2.92)	56.1	68.2	41.3	(.74)	44.3	46.6	82.7	(2.47)	70.8
856	MP.....	12.3	(1.5)	71.9	58.1	50.4	(2.45)	52.9	62.6	39.1	(.89)	41.2	50.4	80.9	(2.42)	73.7

NOTE.—The rotation followed on these plots is corn, corn, oats, and clover. The soil treatment as indicated is standard, as described in the introduction.

[1]Series 800 heavier phase, approaching black clay loam. [2]Error in harvesting.

TABLE 72.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE[1]; EARLY WISCONSIN GLACIATION
ROTATION: CORN, CORN, CORN, SOYBEANS

Plot No.	Soil treatment applied	1903 Corn	1904 Corn	1905 Cowpeas	1906 Corn	1907 Soybeans	1908 Corn	1909 Corn	1910 Corn	1911 Soybeans	1912 Corn	1913 Corn	1914 Corn	1915 Soybeans	1916 Corn	1917 Corn
		Bushels or (tons) per acre														
563	RP	40.2	53.7	17.8	77.2	15.0	56.3	33.7	59.3	23.1	62.1	36.8	38.7	20.3	31.5	66.9
566	RP	41.6	56.8	20.1	75.6	13.3	57.1	30.0	59.3	23.8	62.8	32.9	38.6	20.0	30.0	67.9
569	R	44.2	49.9	13.8	68.1	13.4	55.1	39.0	54.0	21.7	57.6	32.3	38.4	18.8	27.4	59.1
570	M	35.8	51.0	(1.19)	73.8	(.78)	54.4	42.4	53.0	(1.45)	65.5	35.4	35.7	(1.60)	32.0	64.5
573	MP	42.8	49.3	(1.39)	72.4	(.57)	59.9	40.6	60.3	(1.51)	58.8	40.0	35.3	(1.65)	31.3	67.5
576	MP	43.4	49.4	(1.33)	71.4	(.55)	62.1	36.7	56.0	(1.56)	62.9	38.5	37.8	(1.58)	30.4	66.8
		Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn
663	RP	34.2	41.4	49.5	3.1	66.6	34.3	16.9	23.6	33.2	60.8	32.9	19.5	58.2	31.6	58.5
666	RP	28.1	36.2	51.4	2.1	70.0	35.7	18.9	25.6	29.9	59.2	30.9	19.1	62.0	30.3	59.8
669	R	28.6	37.3	54.0	2.5	66.6	37.2	18.3	24.6	21.7	48.5	24.2	19.3	52.4	27.5	44.6
670	M	30.6	39.1	54.8	(1.35)	67.6	33.7	19.5	(1.93)	30.3	59.0	22.5	(1.58)	61.6	35.7	52.1
673	MP	34.4	40.5	54.7	(1.45)	68.3	43.5	22.0	(2.07)	35.2	65.9	33.1	(1.64)	59.9	37.3	60.6
676	MP	24.6	32.4	59.1	(1.20)	68.1	41.5	20.6	(1.87)	40.1	67.9	32.7	(1.63)	63.6	33.6	58.6
		Corn	Corn	Corn	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans
763	RP	25.7	42.5	48.2	65.4	53.3	39.3	23.8	65.1	43.1	47.6	13.9	41.3	47.6	35.5	18.2
766	RP	27.2	51.3	51.3	63.5	60.0	42.5	23.1	66.4	32.3	52.1	16.5	40.3	44.4	37.9	17.1
769	R	28.3	34.0	39.0	56.3	57.0	33.9	22.4	56.2	19.9	32.7	14.5	39.2	39.3	30.3	17.9
770	M	34.2	35.6	44.3	53.2	52.1	25.4	(1.37)	55.6	18.7	34.0	(.95)	42.1	41.6	27.7	(1.93)
773	MP	24.1	38.3	45.2	63.4	60.3	44.7	(1.70)	70.7	27.0	50.7	(1.27)	47.7	47.9	42.1	(1.80)
776	MP	22.9	38.4	42.4	64.3	62.0	43.4	(1.67)	70.4	25.0	46.5	(.85)	48.0	52.1	36.5	(2.02)
		Cowpeas[2]	Cowpeas	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans	Corn	Corn	Corn	Soybeans	Corn
863	RP	....	1.2	61.6	66.6	55.8	14.8	45.0	57.0	20.7	17.9	54.3	49.3	49.9	11.3	74.7
866	RP	....	.8	64.2	62.8	51.4	13.6	49.0	63.3	17.7	17.8	45.4	46.0	48.2	10.2	69.8
869	R	....	1.3	61.2	62.2	49.6	14.2	47.3	64.7	17.2	14.6	45.3	49.8	43.1	9.8	62.9
870	M	....	(1.0)	62.5	61.0	47.3	(1.07)	49.2	61.9	14.7	(.73)	41.1	47.7	40.9	(1.70)	64.5
873	MP	....	(1.6)	67.2	66.8	54.5	(1.13)	47.9	67.0	26.0	(.80)	45.4	49.2	46.2	(1.71)	71.3
876	MP	....	(1.2)	65.5	66.4	48.1	(1.22)	49.3	63.7	24.1	(.80)	44.7	48.2	48.7	(1.47)	69.4

NOTE.—The rotation followed upon these plots is corn, corn, corn, and annual legumes. The soil treatment as indicated is standard, as described in the introduction.

[1]Series 800 is a heavier phase, approaching black clay loam. [2]No yields taken.

TABLE 73.—URBANA FIELD, SOUTH FARM: GENERAL SUMMARY

SERIES 100, 200, 400—ROTATION: CORN, OATS, CLOVER, WHEAT

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn[1] 12 crops	Oats[1] 12 crops	Wheat[2] 8 crops	Clover 4 crops	Soybeans 6 crops
63	RP	59.5	48.3	41.2	.90[3]	17.6[3]
66	RP	59.6	47.7	39.8	1.19[3]	17.6[3]
69	R	51.7	42.8	30.0	1.23[3]	16.3[3]
70	M	56.3	44.8	30.9	(2.14)	(1.24)
73	MP	61.0	49.6	41.8	(2.88)	(1.39)
76	MP	61.4	49.6	42.2	(2.79)	(1.47)
63	RLP	57.6	56.0	46.1	....	16.7[3]
66	RLP	57.8	56.8	45.1	....	17.5[3]
69	R	47.2	49.3	27.0	....	16.0[3]
70	M	54.0	53.3	28.9	....	(1.32)
73	MLP	63.6	57.8	47.4	....	(1.51)
76	MLP	62.0	49.0	46.9	....	(1.51)

SERIES 500, 600, 700—ROTATION: CORN, CORN, OATS, CLOVER

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 26 crops	Oats 9 crops	Clover 4 crops	Soybeans 6 crops
43	RP	52.6	56.7	1.01[3]	14.2[3]
46	RP	50.3	59.3	1.02[3]	14.9[3]
49	R	46.5	53.5	.94[3]	13.7[3]
50	M	47.3	53.6	(1.90)	(1.44)
53	MP	52.6	58.4	(2.55)	(1.59)
56	MP	49.2	57.7	(2.34)	(1.50)

SERIES 500, 600, 700—ROTATION: CORN, CORN, CORN, SOYBEANS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre	
		Corn 35 crops	Soybeans[4] 10 crops
63	RP	46.5	17.8
66	RP	46.7	18.1
69	R	41.5	16.9
70	M	43.3	(1.41)
73	MP	47.9	(1.50)
76	MP	47.1	(1.42)

[1]Six crops only for limestone treatment. [2]Five crops only for limestone treatment. [3]One crop of hay. [4]One crop of cowpeas.

TABLE 74.—URBANA FIELD, SOUTH FARM: CROP YIELDS IN SOIL EXPERIMENTS
BROWN SILT LOAM PRAIRIE; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1903 Alfalfa[1]	1904 Alfalfa	1905 Alfalfa	1906 Alfalfa	1907 Alfalfa	1908 Alfalfa	1909 Alfalfa	1910 Potatoes	1911 Corn	1912 Soybeans	1913 Potatoes	1914 Corn	1915 Soybeans	1916 Potatoes	1917 Corn
			Bushels or (tons) per acre													
143	MP	....	(1)	(1.34)	(6.4)	(2.78)	(2.06)	(3.71)	103.0	60.0	18.8	57.4	43.3	27.2	145.4	86.6
146	MP	....	(1)	(1.34)	(6.7)	(2.43)	(1.86)	(3.55)	83.2	59.3	18.1	58.5	43.0	26.6	155.0	83.6
149	M	....	(1)	(1.23)	(6.2)	(2.28)	(1.81)	(3.76)	60.2	65.0	19.7	59.0	48.5	27.6	162.6	90.6
150	M	....	(.68)	(1.13)	(5.8)	(2.22)	(1.60)	(3.35)	82.9	63.9	(1.47)	49.7	45.9	(1.85)	173.1	89.0
153	MP	....	(.71)	(1.26)	(6.0)	(2.79)	(1.99)	(4.01)	113.1	55.2	(1.45)	59.8	41.3	(1.76)	115.1	92.9
156	MP	....	(.62)	(1.26)	(5.4)	(3.19)	(2.24)	(4.00)	112.2	54.3	(1.42)	81.9	39.3	(1.90)	99.1	85.9
143	MLP	....									17.1	54.9	54.7	25.1	140.0	84.2
146	MLP	....									19.2	44.4	49.9	25.2	139.7	85.2
149	M	....									20.1	54.1	43.9	27.8	165.1	88.9
150	M	....									(1.47)	38.0	52.6	(1.75)	172.0	87.1
153	MLP	....									(1.30)	53.6	57.4	(1.67)	96.6	89.3
156	MLP	....									(1.42)	65.1	55.3	(1.83)	82.5	93.0
		Sugar beets	Corn	Vetch	Potatoes	Corn	Veteh	Potatoes	Corn	Soybeans	Potatoes	Corn	Soybeans	Potatoes	Corn	Soybeans
243	MP	(13.4)	59.6	3.5	62.1	57.6	2.9	194.6	57.2	26.0	83.4	40.4	21.9	70.4	38.7	11.6
246	MP	(11.2)	54.9	3.5	69.1	66.3	4.0	194.6	51.2	28.8	63.1	42.7	25.8	63.0	41.1	12.4
249	M	(11.8)	49.0	2.7	71.5	61.0	4.2	172.2	56.7	29.8	79.9	49.3	28.8	68.2	43.2	11.9
250	M	(12.7)	47.9	(1.55)	66.0	62.4	(.80)	168.3	55.6	(2.25)	78.0	49.2	(2.09)	67.6	51.4	(1.16)
253	MP	(14.3)	56.6	(1.76)	49.3	62.0	(.78)	170.9	55.5	(2.13)	77.2	47.2	(1.99)	56.3	55.8	(1.24)
256	MP	(11.3)	57.0	(1.76)	48.0	55.6	(.90)	156.3	51.1	(2.22)	85.1	43.9	(1.97)	60.3	52.9	(1.26)
243	MLP	....								24.9	83.3	39.5	20.1	55.7	43.3	11.6
246	MLP	....								26.5	63.7	47.4	25.0	57.4	49.6	11.9
249	M	....								27.2	67.0	47.7	25.2	66.8	46.3	11.0
250	M	....								(1.90)	71.3	41.6	(1.66)	75.3	42.1	(1.00)
253	MLP	....								(2.10)	74.9	56.0	(2.05)	51.2	51.4	(1.23)
256	MLP	....								(2.57)	92.6	60.0	(2.24)	49.7	55.7	(1.21)

TABLE 74.—URBANA FIELD, SOUTH FARM, *Concluded*
BLACK CLAY LOAM PRAIRIE[2]; EARLY WISCONSIN GLACIATION

Plot No.	Soil treatment applied	1903 Corn	1904 Vetch	1905 Potatoes	1906 Corn	1907 Soybeans	1908 Potatoes	1909 Corn	1910 Soybeans	1911 Potatoes	1912 Corn	1913 Soybeans	1914 Potatoes	1915 Corn	1916 Clover	1917 Alfalfa
		Bushels or (tons) per acre														
343	MP	43.4	(.16)	53.3	93.3	(2.50)	72.5	59.6	19.3	41.1	85.0	13.7	18.5	60.2	(2.91)	(1.07)
346	MP	44.9	(.15)	29.0	82.4	(2.50)	59.2	61.5	22.3	45.3	77.3	16.3	6.0	51.8	(2.89)	(.94)
349	M	41.1	[3]	26.7	95.2	(2.11)	54.6	60.9	22.3	37.6	81.2	12.0	11.1	58.7	(3.07)	(.71)
350	M	40.3	(.37)	34.6	74.6	(2.01)	53.3	62.7	(2.29)	41.6	74.2	(.94)	8.6	63.1	(2.93)	(.84)
353	MP	34.8	(.75)	49.0	88.0	(2.37)	64.6	63.6	(2.39)	36.0	86.0	(1.34)	23.7	58.9	(3.01)	(1.15)
356	MP	35.4	(.92)	58.5	120.7	(2.37)	52.9	66.2	(2.51)	51.5	90.9	(1.29)	31.8	61.6	(3.63)	(1.24)
343	MLP							69.1	22.3	45.0	85.2	16.6	23.9	58.5	(3.20)	(1.07)
346	MLP							64.3	24.8	43.5	94.6	14.8	14.5	58.0	(3.15)	(1.11)
349	M							60.9	28.3	40.9	84.9	14.4	16.6	57.6	(3.40)	(1.16)
350	M							62.7	(2.30)	40.3	86.5	(.84)	17.6	63.9	(3.03)	(1.17)
353	MLP							70.8	(2.44)	41.8	80.3	(1.19)	25.4	63.6	(3.12)	(1.23)
356	MLP							63.4	(2.40)	44.4	83.7	(1.72)	30.0	67.8	(3.40)	(.97)
		Vetch[1]	Potatoes	Corn	Cowpeas	Potatoes	Corn	Vetch[1]	Alfalfa	Alfalfa	Alfalfa[4]	Alfalfa	Alfalfa	Alfalfa	Alfalfa	Potatoes
443	MP	....	43.9	69.0	(1.03)	50.7	72.0	....	(2.97)	(3.34)	....	(3.89)	(4.28)	(4.00)	(2.02)	91.2
446	MP	....	49.2	62.4	(1.04)	45.9	76.0	....	(2.99)	(2.98)	....	(2.94)	(3.88)	(4.40)	(2.12)	74.1
449	M	....	56.5	60.2	(.86)	61.6	67.9	....	(2.34)	(2.56)	....	(2.59)	(3.57)	(3.88)	(2.17)	105.0
450	M	....	62.6	60.4	(.83)	64.5	63.7	....	(2.54)	(2.68)	....	(3.17)	(3.40)	(4.03)	(2.12)	108.2
453	MP	....	60.6	67.1	(.81)	70.8	73.4	....	(3.90)	(3.51)	....	(4.29)	(4.23)	(4.56)	(2.58)	110.3
456	MP	....	56.7	68.8	(.86)	67.0	68.9	....	(3.15)	(3.64)	....	(3.47)	(3.52)	(4.50)	(2.75)	97.9
443	MLP								(3.74)	(3.46)	....	(4.52)	(4.41)	(4.09)	(2.34)	96.1
446	MLP								(3.75)	(3.56)	....	(3.97)	(4.03)	(4.36)	(2.22)	84.9
449	M								(2.93)	(2.94)	....	(2.92)	(3.90)	(4.24)	(2.30)	100.6
450	M								(2.94)	(2.96)	....	(3.32)	(3.82)	(3.93)	(2.17)	109.4
453	MLP								(4.01)	(4.01)	....	(3.59)	(3.13)	(4.38)	(2.97)	108.3
456	MLP								(3.67)	(3.71)	....	(4.09)	(2.80)	(4.43)	(3.19)	91.3

NOTE.—The rotation followed on these series is potatoes, corn, soybeans, and alfalfa. Alfalfa remains on a division seven years, while the other three crops rotate twice; then alfalfa is shifted to another division. Manure at the rate of 15 tons per acre per year is applied to all plots before potatoes; and rock phosphate and limestone are applied as indicated, at the rate of 500 pounds and 1,000 pounds respectively per acre per annum.

[1]Not harvested. [2]Not uniform; part of series is brown silt loam. [3]Not seeded. [4]Clipped to kill weeds; no crop.

TABLE 75.—VIRGINIA FIELD: CROP YIELDS IN SOIL EXPERIMENTS
BLACK CLAY LOAM PRAIRIE; MIDDLE ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1902 Corn[1]	1903 Oats[2]	1904 Cowpeas[2]	1905 Corn	1906 Oats	1907 Cowpeas	1908 Corn	1909 Oats	1910 Clover	1911 Corn	1912 Oats	1913 Clover	1914 Corn	1915 Oats	1916 Soybeans	1917 Corn
		Bushels or (tons) per acre															
101	0.....	55.3	46.9	(1.90)	78.4	52.5	(3.10)	66.8	39.7	(1.04)	53.6	46.3	(2.41)	54.8	62.5	(2.20)	67.8
102	R.....	54.8	42.8	(2.35)	78.9	66.6	(3.15)	75.4	53.1	....	62.1	71.9	.83	52.6	68.4	17.3	80.6
103	M.....	51.4	44.4	(2.50)	82.1	56.3	(2.80)	85.0	51.9	(.97)	62.9	50.0	(2.91)	60.2	58.4	(2.63)	85.2
104	RL.....	49.9	42.2	(2.35)	71.9	60.9	(3.00)	68.2	40.0	....	63.3	64.7	1.50	51.6	67.8	16.8	75.2
105	ML.....	51.5	41.9	(2.10)	76.1	51.9	(2.75)	79.2	43.4	(1.29)	69.1	53.4	(2.73)	57.4	72.5	(2.55)	83.0
106	RLP....	50.5	46.9	(2.45)	79.9	66.6	(2.70)	85.4	52.5	....	68.8	67.8	1.83	55.0	67.5	24.3	85.0
107	MLP...	56.0	42.8	(2.00)	79.5	55.9	(2.65)	86.6	58.7	(1.24)	74.4	56.6	(3.58)	61.8	59.1	(2.76)	80.4
108	RLPK..	55.8	41.3	(2.10)	82.8	61.9	(2.80)	83.8	45.3	....	72.2	65.6	1.17	51.6	70.0	22.0	83.0
109	MLPK..	55.7	46.9	(2.20)	84.9	61.6	(2.85)	85.0	64.9	(1.73)	70.1	63.4	(3.60)	52.4	60.3	(2.58)	85.8
110	LPK....	57.0	41.3	(1.55)	78.6	52.8	(3.10)	80.0	51.9	(1.73	68.0	72.8	(3.77)	53.2	67.8	(2.62)	74.4
		Oats[1]	Cowpeas[2]	Corn[2]	Oats[2]	Cowpeas[2]	Corn	Oats	Clover	Corn	Oats	Clover	Corn	Oats	Clover	Corn	Oats
201	0.....	71.9	(1.07)	72.7	55.9	(3.09)	79.1	15.6	(1.99)	83.8	48.8	(2.69)	32.4	34.7	(3.37)	49.6	80.6
202	R.....	71.9	(1.32)	76.5	52.5	(2.97)	73.1	17.8	....	83.0	48.1	....	41.8	30.3	.67	51.4	85.9
203	M.....	79.7	(1.20)	68.5	50.9	(3.12)	75.1	15.6	(2.39)	74.6	50.0	(3.34)	46.8	35.3	(4.08)	56.4	90.9
204	RL.....	71.9	(1.17)	65.8	47.8	(2.71)	61.5	13.8	....	75.0	35.9	....	32.4	26.6	.83	51.8	75.9
205	ML.....	71.9	(1.12)	61.1	44.1	(2.72)	71.1	13.8	(1.83)	86.6	39.1	(2.88)	43.6	29.1	(4.25)	55.0	80.9
206	RLP	56.3	(1.10)	73.5	50.3	(2.72)	73.1	15.0	....	100.6	58.4	....	50.4	26.2	.50	59.0	90.6
207	MLP...	56.3	(1.00)	67.5	49.1	(2.78)	72.6	12.5	(2.89)	101.2	53.8	(3.90)	51.4	29.7	(3.89)	49.6	87.2
208	RLPK..	56.3	(1.22)	75.6	49.7	(2.63)	69.4	14.1	....	100.8	54.7	....	50.6	29.7	.33	46.4	86.2
209	MLPK..	66.3	(1.17)	74.0	47.2	(2.89)	78.9	12.2	(2.80)	101.6	56.6	(3.90)	48.8	30.0	(5.23)	47.2	93.1
210	LPK....	73.4	(1.15)	66.8	50.0	(2.63)	71.6	9.4	(2.20)	94.2	46.9	(4.12)	53.4	29.7	(5.45)	52.6	91.6

TABLE 75.—VIRGINIA FIELD, *Concluded*

Plot No.	Soil treatment applied	1902 Cow-peas[1]	1903 Corn[1]	1904 Oats[2]	1905 Cow-peas[2]	1906 Corn	1907 Oats	1908 Clover[3]	1909 Corn	1910 Oats	1911 Clover	1912 Corn	1913 Oats	1914 Soy-beans	1915 Corn	1916 Oats	1917 Clover
		Bushels or (tons) per acre															
301	0.....	....	68.0	41.9	(2.32)	84.6	47.2	(3.50)	73.2	59.4	(1.84)	73.6	30.9	10.8	66.2	58.1	(2.00)
302	R.....	....	65.5	46.6	(2.33)	82.8	41.3	....	70.2	55.3	....	65.6	31.9	19.8	66.8	45.0	1.33
303	M.....	....	67.0	41.9	(2.17)	86.3	42.5	(4.23)	74.2	53.1	(1.75)	73.0	32.5	(2.20)	77.6	59.4	(1.42)
304	RL.....	....	63.5	42.3	(2.16)	73.0	37.2	....	63.0	46.9	....	55.6	45.6	17.7	70.8	47.5	1.67
305	ML.....	....	67.0	36.3	(1.63)	82.0	37.5	(3.36)	64.4	54.7	(1.14)	55.8	10.9	(2.40)	76.2	51.9	(1.23)
306	RLP....	....	68.8	40.0	(2.01)	85.9	44.1	....	64.0	61.3	....	84.0	49.4	21.0	75.8	64.1	2.33
307	MLP...	....	68.3	44.4	(1.82)	89.5	39.1	(4.17)	75.4	53.8	(2.19)	85.8	40.9	(2.30)	73.2	60.0	(2.48)
308	RLPK..	....	67.3	43.5	(2.19)	84.4	47.5	....	61.8	45.0	....	87.8	47.2	20.5	72.0	53.1	2.33
309	MLPK..	....	75.0	37.8	(2.05)	88.0	41.6	(4.36)	76.6	62.5	(2.63)	88.0	51.6	(2.50)	80.8	63.8	(3.13)
310	LPK....	....	66.5	36.3	(2.11)	84.5	36.6	(2.49)	61.8	51.6	(2.30)	86.8	48.8	14.3	73.2	61.9	(2.86)
		Corn	Corn	Oats	Wheat	Corn	Corn	Oats	Wheat	Corn	Corn	Oats	Wheat	Corn	Corn	Oats	Wheat
401	0.....	57.5	67.8	53.1	29.8	62.3	67.5	16.3	25.5	49.4	50.1	72.2	18.0	53.8	56.4	36.2	28.7
402	L.....	55.4	66.5	41.0	29.5	55.6	59.5	16.3	16.0	36.0	40.0	62.5	17.8	51.0	52.8	37.5	24.8
403	LN.....	52.9	64.3	47.8	32.2	69.9	74.8	15.0	24.3	89.6	55.6	85.3	29.2	50.2	63.4	42.2	24.5
404	LP.....	57.3	67.0	48.1	29.8	52.6	59.4	12.8	31.3	28.0	38.3	46.9	23.3	51.6	56.6	43.8	33.3
405	LK.....	59.0	63.8	36.6	22.8	45.8	50.4	13.1	19.7	22.2	30.7	46.6	17.7	52.6	50.0	27.5	21.2
406	LNP....	56.1	72.5	46.0	36.0	72.0	72.0	12.5	40.0	86.0	60.8	67.2	27.7	58.0	73.6	61.9	39.2
407	LNK...	54.0	74.5	54.4	30.2	71.3	79.3	15.9	24.7	88.8	61.0	83.8	24.7	57.0	69.0	54.1	23.0
408	LPK....	55.6	65.3	26.9	23.8	38.3	45.6	11.6	22.3	22.2	28.0	18.4	14.2	51.2	32.0	39.7	21.8
409	LNPK..	60.2	75.8	53.3	32.7	77.4	84.0	15.9	29.3	84.0	61.7	61.9	21.3	52.4	70.4	55.3	32.7
410	NPK...	57.5	77.5	60.0	30.7	77.9	81.5	12.8	31.7	93.0	62.8	58.8	22.5	52.0	67.0	63.1	32.7

GENERAL NOTES.—The rotation on the first three series is corn, oats, and legumes. Phosphorus is applied in 200 pounds of steamed bone meal and potassium in 100 pounds of potassium sulfate per acre. The manure and residues are handled in the regular way, as described in the introduction. In 1902, 285 pounds of slacked lime was applied per acre and no further applications made until 1915, when 4 tons per acre was applied to all series. On Series 400 the rotation is corn, corn, oats, and wheat and is treated as above, with the exception that nitrogen is applied in 800 pounds of dried blood per acre per year, instead of the organic manures. Plots 1, 2, and 3 were above the average when the experiments were begun, owing to some previous applications of manure next to the road.

[1]No manure or residues. [2]No manure. [3]Yields include stubble clover of 1907.

TABLE 76.—VIRGINIA FIELD: GENERAL SUMMARY
FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre			
		Corn 13 crops	Oats 12 crops	Clover 8 crops	Soybeans or cowpeas[1] 4 crops
1	0	66.4	48.0	(2.36)	(2.37)
2	R	68.0	51.3	.35	24.6
3	M	72.3	49.4	(2.63)	(2.69)
4	RL	62.6	46.9	.50	22.9
5	ML	69.2	44.9	(2.34)	(2.60)
6	RLP	74.4	55.3	.57	24.9
7	MLP	75.5	50.6	(2.91)	(2.62)
8	RLPK	72.8	51.7	.48	24.2
9	MLPK	76.1	55.1	(3.42)	(2.70)
10	LPK	71.7	51.8	(3.11)	(2.44)
	FERTILIZER SERIES				
		Corn 8 crops	Oats 4 crops	Wheat 4 crops	
401	0	58.1	44.4	25.5	....
402	L	52.1	39.4	22.0	....
403	LN	65.1	47.6	27.6	....
404	LP	51.3	37.9	29.4	....
405	LK	46.8	31.0	15.3	....
406	LNP	68.9	46.9	25.7	....
407	LNK	69.3	52.0	25.7	....
408	LPK	42.2	24.1	20.5	....
409	LNPK	70.7	46.6	29.0	....
410	NPK	71.1	48.7	29.4	.

[1]No manure on one crop of cowpeas.

TABLE 77.—WEST SALEM FIELD: CROP YIELDS IN SOIL EXPERIMENTS
YELLOW-GRAY SILT LOAM, TIMBER SOIL; LOWER ILLINOISAN GLACIATION

Plot No.	Soil treatment applied	1912	1913	1914	1915	1916	1917
		Oats[1]	Soy-beans[2]	Wheat[2]	Corn	Soy-beans	Oats
		Bushels or (tons) per acre					
101	0	14.4	(.32)	.1	15.6	(1.21)	5.8
102	ML	14.4	(.39)	2.5	39.3	(1.86)	32.8
103	ML	11.7	(.36)	2.7	36.6	(1.57)	35.8
104	MLP	12.0	(.39)	7.4	38.9	(1.68)	41.4
105	L	11.7	2.8	2.8	22.4	8.6	32.7
106	RL	10.2	3.3	2.3	31.5	11.8	35.2
107	RL	10.9	3.4	3.3	35.8	13.8	35.2
108	RLP	11.1	3.7	7.9	43.7	16.9	40.6
109	RLPK	11.3	4.8	8.8	49.3	18.9	49.2
110	0	10.8	3.7	.2	16.8	(.97)	17.2
		Cow-peas[1]	Oats[2]	Soy-beans[2]	Wheat[2]	Corn	Soy-beans
201	0	(1.05)	7.3	(.18)[4]	3.5	25.4	(1.06)
202	ML	(1.05)	7.3	(.20)	6.6	40.8	(1.22)
203	ML	(.85)	6.4	(.19)	6.2	38.1	(1.03)
204	MLP	(.88)	7.0	(.23)	12.6	41.5	(1.21)
205	L	(.82)	5.6	.9	5.2	26.3	5.7
206	RL	....	6.1	.8	6.8	33.4	7.5
207	RL	....	5.2	.9	8.2	34.7	8.0
208	RLP	....	7.3	1.6	15.7	49.6	10.7
209	RLPK	....	8.6	1.2	22.7	48.0	10.6
210	0	(.94)	6.1	(.09)[4]	1.7	15.3	(0.46)
		Corn[1]	Soy-beans[2]	Oats[3]	Soy-beans[2]	Wheat[2]	Corn
301	0	14.8	(.67)	3.9	(1.40)	.0	17.8
302	ML	20.2	(.59)	5.2	(.90)	.1	29.4
303	ML	17.3	(.67)	4.9	(.90)	.1	34.2
304	MLP	12.2	(.64)	5.8	(.98)	.3	34.1
305	L	9.9	4.2	5.8	6.4	.1	16.7
306	RL	12.8	4.7	.3	8.2	.1	25.0
307	RL	12.5	5.8	1.1	8.2	.1	29.5
308	RLP	8.7	5.2	1.7	9.8	.1	29.7
309	RLPK	14.7	4.9	1.9	13.6	1.2	47.4
310	0	12.9	3.9	1.5	(.99)	.0	10.3
		Oats[1]	Corn	Soy-beans	Oats	Clover	Wheat
401	0	16.4	5.0	(.40)	13.6	(0)	2.2
402	ML	16.6	6.4	(.50)	19.1	(0)	6.8
403	ML	19.5	10.8	(.58)	10.5	(0)	10.1
404	MLP	17.0	9.4	(.81)	24.2	(.76)	16.8
405	L	15.2	5.4	4.5	28.3	.42	11.2
406	RL	17.7	10.6	6.7	21.7	.92	12.5
407	RL	18.0	9.3	7.4	23.0	.83	13.0
408	RLP	7.0	20.5	10.2	22.3	1.17	21.6
409	RLPK	12.2	14.2	9.6	30.9	2.17	23.3

[1]No treatment. [2]No manure. [3]No manure; small yield of volunteer oats harvested as hay and included in yields from Plots 1 to 5 and Plot 10, one ton of hay being counted as 25 bushels of oats. [4]Estimated.

TABLE 77.—WEST SALEM FIELD, *Concluded*

Plot No.	Soil treatment applied	1912 Cow-peas[1]	1913 Wheat[2]	1914 Corn	1915 Soy-beans	1916 Oats	1917 Soy-beans
		Bushels or (tons) per acre					
501	0	(.44)	.9	7.7	(.98)	2.5	(0.33)
502	ML	(.41)	3.8	12.6	(1.70)	19.4	(0.77)
503	ML	(.46)	5.1	8 6	(1.71)	18.6	(0.71)
504	MLP	(.68)	3.8	8.6	(1.53)	20.6	(0.86)
505	L.	(.66)	3.8	8.4	10.9	15.8	8.1
506	RL	....	5.7	12.4	13.2	18.6	7.4
507	RL	....	4.4	11.2	12.0	18.4	6.6
508	RLP	....	7.8	13.5	12.6	23 4	8.5
509	RLPK	....	11.1	17.2	13.2	27.0	8.8

[1]No treatment. [2]No manure.

TABLE 78.—WEST SALEM FIELD: GENERAL SUMMARY, FULLY TREATED PLOTS

Serial plot No.	Soil treatment applied	Average annual yields—bushels or (tons) per acre				
		Corn 5 crops	Oats[1] 4 crops	Wheat[2] 4 crops	Clover 1 crop	Soybeans 5 crops
1	0	14.3	5.8	1.4	.00	(.78)
2	ML	25.7	18.1	4.0	.00	(1.21)
3	ML	25.7	16.4	4.8	.00	(1.12)
4	MLP	26.5	21.8	9.3	(.76)	(1.22)
5	L.	15.8	19.3	4.8	.42	7.6
6	RL	22.6	19.0	5.4	.92	9.3
7	RL	24.1	19.4	6.1	.83	9.6
8	RLP	31.4	22.0	11.6	1.17	11.8
9	RLPK	35.2	27.2	13.7	2.17	12.2

GENERAL NOTES.—The rotation is wheat, corn, soybeans or cowpeas, oats and clover. The soil treatment is standard, as described in the introduction, with the exception that in the beginning limestone was applied to all plots except Nos. 1 and 10. No further applications of limestone will be made to Plots 2, 5, or 6; they will serve to test the value of the initial or of subsequent applications.

[1]One crop without manure. [2]Three crops without manure.

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(Fields arranged according to soil types)